DOCUMENT RESUME

ED 069 928 VT 017 884

TITLE	Breath Examiner Specialist Instructor Training Institute. Final Report.
INSTITUTION	Dunlap and Associates, Inc., Darien, Conn.
SPONS AGENCY	Department of Transportation, Washington, D.C. National Highway Safety Bureau.
REPORT NO	DOT-HS-800-696
PUB DATE	Jun 72
NOTE	143p.
EDRS PRICE	MF-$0.65 HC-$6.58
DESCRIPTORS	Alcohol Education; Examiners; *Institutes (Training Programs); Instructional Materials; *Job Training; *Lesson Plans; Specialists; Supervisory Training; *Teacher Educator Education; Teaching Experience; Teaching Skills; Team Training; *Traffic Safety; Training Laboratories
IDENTIFIERS	*Breath Examiner Specialist Instructors

ABSTRACT

Five regional training institutes were held in the spring of 1972 to develop a cadre to teach the National Highway Traffic Safety Administration curriculum package, "Basic Training Program for Breath Examiner Specialist." Emphasis of the institutes was on the development of teaching skills, rather than breath testing skills. Enrollees were drawn from 42 states, Puerto Rico, and Washington, D.C. Two-thirds of the enrollees represented law enforcement services, with the rest from alcohol safety programs, state agencies, and universities. This report contains information and materials about institute planning, enrollee selection, and institute conduct and evaluation. Lesson outlines used by instructors at each of the five institutes are included in the appendixes. Evaluation indicated that 96 percent of the enrollees found the institutes to be quite valuable or exceptionally valuable to them as instructors. Course-related instructor training covering teaching techniques required by the curriculum package was appreciated. The report recommends the funding of similar institutes for other highway safety courses. (MF)

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DOT HS 800 696

BREATH EXAMINER SPECIALIST INSTRUCTOR TRAINING INSTITUTE

Dunlap and Associates, Inc.
One Parkland Drive
Darien, Connecticut 06820

Contract No. DOT-HS-099-1-140
June 1972
Final Report

VT017884

PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
WASHINGTON, D.C. 20590

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The opinions, findings, and conclusions expressed in this publication are those of the authors and not necessarily those of the National Highway Traffic Safety Administration.

TECHNICAL REPORT STANDARD TITLE PAGE

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
DOT HS-800 696		

4. Title and Subtitle	5. Report Date
Breath Examiner Specialist Instructor Training Institute: Final Report	June 1972
	6. Performing Organization Code
7. Author(s)	8. Performing Organization Report No.
Arlene Cleven	
9. Performing Organization Name and Address	10. Work Unit No.
Dunlap and Associates, Inc. One Parkland Drive Darien, Connecticut 06820	11. Contract or Grant No. DOT-HS-099-1-140
12. Sponsoring Agency Name and Address	13. Type of Report and Period Covered
U.S. Department of Transportation National Highway Traffic Safety Administration Washington, D.C. 20590	Final Report of Activity June 21, 1971 through June 30, 1972
	14. Sponsoring Agency Code

15. Supplementary Notes

16. Abstract

The purpose of this study was to expose key individuals to the NHTSA-developed curriculum materials for breath examiner specialist and to teach them how to teach. The objective was accomplished through the conduct of five 30-hour instructor training institutes conducted in various areas of the country. Institutes were held in the spring of 1972. They were team-taught by representatives of Dunlap and Associates, Inc., and educators from Central Connecticut State College. Various educational institutions served as host colleges for the institutes.

Through its regional offices, state governor's representatives, and state or local agencies, NHTSA identified and referred candidates to attend each institute. A total of 77 enrollees completed the training program. They came from 42 states plus Puerto Rico and the District of Columbia. With regard to their current BES training, most enrollees are associated with on-going programs. Most of these are state-wide programs. Sixty-eight of the attendees reported that they expect to use all or some of the NHTSA curriculum materials for their future BES training.

All institutes proceeded on schedule and ran smoothly. Ninety-six percent of the enrollees reported that the institute was quite valuable or exceptionally valuable to them as instructors.

17. Key Words	18. Distribution Statement
BREATH EXAMINER SPECIALIST BREATH TESTING INSTRUCTOR TRAINING CURRICULUM MATERIALS	unlimited

19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages	22. Price
unclassified	unclassified	145	

Form DOT F 1700.7 (8-69)

FOREWORD

The U. S. Department of Transportation, National Highway Traffic Safety Administration, recently supported the development of a Basic Training Program for Breath Examiner Specialist. The detailed Instructor's Lesson Plans, Course Guide and Student Study Guide, prepared by Dunlap and Associates, Inc., were developed to provide a standardized approach for training individuals concerned with breath testing of drinking driver suspects.

In order to assist states in making the program operational, the National Highway Traffic Safety Administration considered it important to develop a cadre of trained individuals to serve as instructors of the course. NHTSA therefore supported the conduct of five regional Breath Examiner Specialist Instructor Training Institutes. These institutes were conducted in the spring of 1972 by Dunlap and Associates, Inc., in collaboration with educators from Central Connecticut State College, New Britain, Connecticut.

Dr. Aaron Adams of the National Highway Traffic Safety Administration served as Contract Technical Manager. Mr. Lawrence Pavlinski of the Office of Standards Development and Implementation served as advisor. The project was directed by Miss Arlene Cleven of Dunlap and Associates, Inc.. Mr. Joseph T. Fucigna, Executive Vice President of the Corporation, served both as Responsible Corporate Officer and as one of the team teachers at each of the institutes. Educators from Central Connecticut State College who taught at the various institutes were Dr. Joseph Duffy, Dr. Philip Masley, Dr. John Chow, Dr. Andrew Baron, Mr. George Barnhardt, and Mr. Sanford Rich.

Dunlap and Associates, Inc., is indebted to Decatur Electronics, Inc., and to Smith and Wesson Electronic Company which provided an Alco-Tector and a Breathalyzer, respectively, at each institute for enrollees to use during their practice teaching sessions.

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SUMMARY AND RECOMMENDATIONS

Under this contract, the National Highway Traffic Safety Administration supported the conduct of five regional Breath Examiner Specialist Instructor Training Institutes. The purpose of these five-day, 30-hour institutes was to develop a cadre of trained individuals to teach the NHTSA curriculum package: Basic Training Program for Breath Examiner Specialist.

Since the emphasis of the institutes was on the development of teaching skills as distinct from breath testing skills, topic coverage included discussions of the teaching-learning process, how to teach information lessons, how to teach skills, use of instructional aids, and developing written tests. BES curriculum related topics included discussions of course development and course documents, course planning considerations, and conducting laboratory sessions. Workshops provided an opportunity for enrollees to develop simple instructional aids and to practice development of written test items. In practice teaching workshops, each enrollee was given an opportunity to teach from a segment of the lesson plans. A session on application of institute principles provided an opportunity for enrollees to demonstrate assimilation of principles taught at the institute.

Institutes were held in the spring of 1972 in New Britain, Connecticut; Atlanta, Georgia; San Mateo, California; Lansing, Michigan; and Denver, Colorado. They were team taught by a representative of Dunlap and Associates, Inc., and educators from Central Connecticut State College in New Britain, Connecticut.

The institute planning process proceeded smoothly. It included an initial determination by the NHTSA regions of the interest of states in participating in such an instructor training program, determination of a national pattern based on this expression of interest by the states, selection of institute dates, a "preferred" enrollment process to accommodate at least one candidate from each of the states expressing an interest in participating, and an "open end" enrollment to accommodate additional candidates from these or other states as appropriate. The enrollment process remained active up to the first day of each institute. Although three enrollees failed to show for the institutes, a total of 77 enrollees completed the program; the planned national quota of 75 was therefore exceeded by two enrollees. They came from 42 different states plus Puerto Rico and Washington, D.C.

About half of the enrollees (40) expect to be involved as instructors in breath examiner specialist training courses; about one-quarter serve in coordinating or supervisory roles; the remainder have other responsibilities. As would be expected, about two-thirds of the enrollees represent law enforcement services; the remainder come from alcohol safety programs, state departments or laboratories and universities. Their experience in both the breath testing and teaching fields ranges from none to at least 20 years. All enrollees have a high school diploma as a minimum and about 40% have achieved degrees beyond high school.

With regard to their BES training plans, most are currently associated with on-going state-wide training programs; these are typically conducted on-the-job or within agency and utilize Section 402 funds under the Highway Safety Act. Forty-seven enrollees report that they currently are using their own training materials; in many cases, these materials are similar in content and time coverage to the NHTSA curriculum materials. Sixty-eight of the enrollees report that they expect to use all or some of the NHTSA curriculum materials for their future BES training.

All institutes proceeded on schedule and ran smoothly. A set of detailed lesson outlines assured consistency in coverage at the various institutes. These institute outlines were duplicated and a copy distributed to each enrollee as a master handout of the institute and as an aid in planning similar instructor training programs at the local level.

Ninety-six percent of the enrollees reported that the institute was either quite valuable or exceptionally valuable to them as instructors. Enrollees appeared enthusiastic about what they had learned and expressed the desire for others in their departments to share in the experience. Many enrollees expressed the need for more time at the institute, particularly for practice teaching sessions, instructional aids, and open discussions regarding programs of other enrollees (including information on laws, equipment, procedures, etc.). Many enrollees expressed the desire for follow-on meetings so that the contacts they had made at the institutes could be maintained and exchange of information continued.

On the basis of the observations made at the institutes and information obtained from the enrollees, the instructor training institutes were well received and successful. The fact that many enrollees did not report having a major teaching responsibility with regard to the breath

examiner specialist course is not considered detrimental. Since many of these individuals served in a supervisory or coordinating role, their interest in participating in such a series of institutes is understandable and desirable. In many cases, such individuals will be in a position to determine whether the NHTSA materials will be used for training in their areas. In addition, such individuals can serve a major role in initiating similar instructor training programs at the local level.

Based on the enthusiasm with which this institute and a previous instructor training institute conducted by the contractor (emergency medical technician) were received, it is recommended that similar institutes be funded for other highway safety courses. For these institutes, a special effort should be made to increase the time (even by holding evening sessions) for communication and exchange of ideas among enrollees regarding their specific programs. In addition, it is recommended that such institutes continue to be held in various areas of the country to minimize enrollee travel time, that they be team taught by university educators and individuals knowledgeable about development of the curriculum materials, and that colleges continue to be used as hosts for the institutes.

INTRODUCTION

In view of the alarming role of the drinking driver in highway traffic fatalities, the U. S. Department of Transportation, National Highway Traffic Safety Administration recognized the need for developing a standardized approach for training specialists concerned with breath testing of drinking driver suspects. NHTSA therefore recently supported the development of a Basic Training Program for Breath Examiner Specialist. The program consisted of detailed Instructor's Lesson Plans designed to be used by the instructor in the day-to-day conduct of the course, a Course Guide designed to be used by the course administrator in planning the course, and a Student Study Guide[1] designed to be used as a student reference source.

In order to aid states in making the program operational, NHTSA considers it important that the program include instructor training to assure that a group of trained individuals throughout the country will be available to teach the course. The purpose of this study, therefore, is to expose key individuals to the NHTSA instructional materials and to teach them how to teach, the objective being accomplished through the conduct of five regional instructor training institutes.

This study represents one of four contracts funded by NHTSA in fiscal year 1971 for the purpose of conducting instructor training institutes for highway safety courses; it is the second series of institutes run by Dunlap and Associates, Inc.[2] Two of these contracts were conducted in the fall of 1971 (emergency medical technician and driver license examiner) and two in the spring of 1972 (breath examiner specialist and accident site investigator). Although the scope of this study as specified

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[1] The NHTSA notice describing these materials, including the reference source and pricing data, is included in Appendix D.

[2] Emergency Medical Technician Instructor Training Institute: Final Report. U. S. Department of Transportation, National Highway Traffic Safety Administration, Washington, D.C. 20590, Contract DOT-HS-099-1-141, June 1972. Report is available only through the National Technical Information Service, Springfield, Virginia 22151.

in the contract remained the same as the ones conducted in the fall, means of accomplishing the various contract tasks were varied as appropriate depending on knowledge and experience gained in the conduct of previous institutes.

The scope of the current training effort included the following:

- Development of lesson outlines for a five-day 30-hour institute
- Identification and selection of instructor candidates with the assistance of the appropriate Governor's Highway Safety Representatives
- Identification of five institute sites and dates and completion of all local arrangements including enrollee lodging accommodations, classroom facility, instructional equipment and supplies
- Conduct of the five institutes, the teaching to be shared by educators and individuals knowledgeable about the development of the curriculum materials
- Duplication and distribution of the lesson outlines to enrollees as an institute follow-on service

The remainder of this report contains the following sections:

- Institute Planning--description of enrollee selection procedures and determination of sites and dates for the various institutes
- Institute Enrollees--description of enrollee background, responsibilities and plans relative to BES training
- Institute Conduct and Evaluation--institute outlines and schedule and summary of comments obtained at the various institutes regarding institute coverage and value

Appendices include copies of forms filled out by enrollees, a roster of enrollees, a copy of the institute outlines, and the NHTSA notice regarding the curriculum package.

INSTITUTE PLANNING

Institute planning activities included selection of enrollees and determination of sites and dates for each institute. Although technically a part of institute planning, development of the institute outline and schedule is discussed in the section on Institute Conduct and Evaluation since the outlines in effect represent the content of the institutes.

Steps involved in the enrollment process and selection of sites and dates were as follows:

- Identification of participating states
- Selection of institute sites and dates
- Enrollment of candidates

Each is discussed below.

Identification of Participating States

In order to provide a basis for selecting institute sites, it was necessary to determine the pattern of states interested in sending candidates to a Breath Examiner Specialist instructor training institute. NHTSA accordingly requested each of its 10 regions to determine which of its states would participate in the institute.[1] No attempt was made at this point to determine specific enrollee names or numbers. For each state which indicated an interest in participating, it was assumed for planning purposes that at least one enrollee would attend from that state. From this early contact with state representatives, an initial expression of interest in participating in the institutes was received from 45 states and the District of Columbia.[2]

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[1] Regions were informed at this point that a separate project was being planned to provide instructor training courses for personnel from Alcohol Safety Action Projects under Section 403.

[2] Forty of these states, two new states, the District of Columbia and Puerto Rico actually had attendees at the institutes.

Selection of Institute Sites and Dates

As with the previously conducted Emergency Medical Technician Instructor Training Institutes, it was determined that the first institute should be held at Central Connecticut State College in New Britain, Connecticut. Since educators who would be teaching at the various institutes were all from the CCSC staff, each had an opportunity to observe most of the week's sessions. This observation, plus the institute outlines, assisted in standardizing content and presentation at all the regional institutes.

Criteria for the selection of sites for the other institutes were:

- Institutes should be held in all areas of the country to accommodate all enrollees who might wish to attend
- Within these areas, the institutes should preferably be held near major transportation centers to minimize enrollee travel time
- It was considered desirable to have a college serve as host for each institute; it was considered especially desirable to utilize the same host colleges used for the emergency medical technician instructor training institutes if possible since all had been very helpful and accommodating
- Suitable classroom facilities and lodgings should be available

In examining the national pattern of participation (as determined in the previous step), it was determined that all but one of the host colleges used previously would satisfy the criteria for site locations for the present series of institutes.[1] Of the 45 states (plus the District of Columbia) expressing interest in participating in the series of institutes, nine or ten were assigned to each of the institute sites on the basis of proximity to the site.

[1] The projected pattern of attendees for this series of institutes was not the same as that for the emergency medical technician institutes.

In selecting dates for the institutes, it was determined that there should be one week between the first and second institute to permit time to make changes should they be warranted as a result of the first run-through of the institute. Remaining institutes could be run in sequence, the only constraint being that an institute would not be held in any week in which there was a holiday.

Resulting sites, dates and host colleges for the various institutes were:

- March 6-10, 1972: New Britain, Connecticut
  Host: Central Connecticut State College
  Classes: Conducted at the college

- March 20-24, 1972: Atlanta, Georgia
  Host: DeKalb Community College, Clarkston, Georgia
  Classes: Conducted at enrollee lodging

- April 10-14, 1972: San Mateo, California
  Host: College of San Mateo
  Classes: Conducted at enrollee lodging

- April 17-21, 1972: Lansing, Michigan
  Host: Lansing Community College
  Classes: Conducted at the college

- April 24-28, 1972: Denver, Colorado
  Host: Community College of Denver
  Classes: Conducted at enrollee lodging

Enrollment of Candidates

A series of enrollee selection procedures was designed to identify 15 instructor candidates to attend each of the five regional institutes for a total national enrollment of 75. Enrollment procedures provided a minimum of 30 days between identification of a candidate and assignment of the candidate to a particular institute. These procedures were as follows:

- NHTSA mailed to its regional administrators 46 numbered copies of a registration form to be completed by one enrollee from each of the 45 states (plus the District of

Columbia) expressing an interest in the planned institutes. These forms included the site and date of the institute to which the enrollee would be assigned and requested information on his previous experience in alcohol breath examination, his formal education, the training courses he has completed, his previous experience as an instructor, and the estimated number of breath examiner specialists he expects to train within the ensuing year. Included with each form were instructions to the enrollee regarding institute purpose and enrollment procedures and a copy of the Course Guide prepared for the Breath Examiner Specialist Basic Training Program. Completed forms were mailed by enrollees to Dunlap and Associates, Inc. A copy of the form and the instructions to enrollees are included in Appendix A. This step in the enrollment process constituted the "preferred" enrollment for at least one individual from each of the interested states.

- To fill the 29 vacant seats (75 total minus 46). NHTSA initiated an "open end" enrollment procedure. For this purpose, NHTSA regions were supplied with additional enrollment forms which were identical to those used for the preferred enrollment except that they were not numbered and did not indicate the site and date of the institute. Interested enrollees completed the forms and returned them to Dunlap and Associates, Inc. They were accepted by the contractor on a first-come basis and assigned to institutes on the basis of proximity to the candidate's home base and availability of space at the institute. Instructions to the candidate also accompanied this form; a copy of these instructions is included in Appendix A.

- A memorandum from Dunlap and Associates, Inc., confirmed the candidate's enrollment at a given institute and explained institute coverage, lodging, travel facilities, and reimbursement procedures. A tear-off sheet to be returned by the enrollee (indicating either that he would personally attend the institute or the name and address of his alternate) completed the enrollment process. A copy of this memorandum is included in Appendix A.

Because the preceding process did not result in the enrollment of 75 instructor candidates, Contract Technical Managers of Alcohol Safety Action Projects (previously excluded from the study) were invited to send candidates to the institutes. This request resulted in an oversubscription to the institutes.

Up until the first day of each institute, the enrollment process remained flexible with individuals cancelling plans to attend, sending alternates, or requesting permission to attend after an initial expression of no interest had been obtained from their states or area. Accommodations and changes in enrollment were made, therefore, up to the first day of each institute. The total formally enrolled by this procedure numbered 80; since three candidates failed to show up, the total national enrollment numbered 77. This number exceeded by two candidates the national quota planned for this series of institutes.

Summary Comments

The institute planning process, including enrollment of candidates and selection of institute sites and dates, proceeded smoothly. In view of the nature of the enrollment process, and the changes inherent thereto, enrollment changes occurred up to the first day of each institute. Three individuals failed to notify the contractor of their intention not to attend or changed their plans due to unforeseen events; however, overenrollment by the contractor resulted in exceeding the national quota planned for the institutes. In terms of obtaining numbers of candidates, the enrollment process as planned, although time-consuming, appeared to be effective.

INSTITUTE ENROLLEES

As stated previously, a total of 77 individuals completed the instructor training institutes. These individuals came from 42 different states plus Puerto Rico and Washington, D.C.; no more than three enrollees came from any one state or area. Their responsibilities relative to BES training and some of their characteristics are discussed below. Specifically, information is provided on their role in BES training, organizations represented, their breath testing experience, their teaching experience, their formal education, and their expectations relative to BES training.[1] A roster of enrollees appears in Appendix B.

Role in BES Training

The role of the 77 attendees relative to BES training is tabulated below:

Role	Enrollees
Instructor/trainer	38
Future instructor	2
Coordinator/supervisor	18
Law enforcement	5
Other	6
No or inapplicable answer	8
Total	77

The table shows that approximately half (38) of the enrollees report that they have instructor responsibilities relative to the BES course and an additional two enrollees expect to be involved in training in the future. Approximately 25% of the enrollees serve in a coordinating or supervisory role--some appear to have a coordinating role with regard to training only and some appear to have a broader supervisory role with regard to the entire chemical testing program in their state or area. Five of the enrollees simply report that their responsibilities lie with law enforcement. Six enrollees reported other responsibilities including equipment operator (2 enrollees), "initiator" (presumably of a BES training program since there is currently no organized training program in his area), "inspector" (presumably of equipment), chemist, and "introducer of BES to the ASAP community." The remaining enrollees either gave no answer or an inapplicable answer (e.g., "attendee").

[1] Data presented in this section were obtained from the NHTSA enrollment form and a contractor registration form filled out by enrollees at the institute (see Appendix A).

As with the EMT instructor training institutes, therefore, attendees did not necessarily represent present or future instructors of breath examiner specialists, although half of them did. It is not considered surprising that individuals with general coordinating, supervisory or other roles (e.g., chemist) would wish to attend such a training program. Since one of the purposes of the institute is exposure to the NHTSA instructional materials, one might expect that it would attract individuals in a supervisory role who want to be up-to-date regarding the most current training information or materials that are available. Exposure of these individuals to instructor training might serve to motivate them to sponsor similar programs at the local level.

Organizations Represented

Organizations represented by the 77 institute enrollees are as follows:

Organization[1]	Enrollees
State law enforcement service	35
County law enforcement service	1
City law enforcement service	12
State ASAP's[2]	3
County ASAP's	2
State health or transportation department	10
State laboratory (crime, toxicology, hygienic)	10
State highway safety program	1
University	3
Total	77

As would be expected, almost two-thirds of the enrollees were associated with a law enforcement service--state, county or local. These individuals typically report their job title by level rather than function (e.g., patrolman, trooper, corporal, sergeant, captain). Others are associated with alcohol safety action programs, state health and transportation departments, laboratories, and universities. The latter include individuals in coordinating or supervisory positions as well as chemists, laboratory technicians and instructors.

[1] For this tabulation, Puerto Rico (one enrollee) was counted as a state.

[2] The exact number of enrollees from Alcohol Safety Action Projects is unknown since some known ASAP enrollees simply indicated their association with a law enforcement service.

Breath Testing Experience

Enrollees report the following years of experience in the breath testing field:

Years of Experience	Enrollees
None	4
Minimal	1
Less than 1	13
1-2	18
3-5	14
6-10	10
11-20	9
Greater than 20	2
Not stated	6
Total	77

The table shows that the enrollees' previous experience in breath testing ranged from none to greater than 20 years. Of those who have no previous experience, one is with a police department in an area where there is currently no program but an attempt is being made to get one started, one reports that he is a "criminalist" in a laboratory and expects to train other criminalists in breath testing, and two report that they are instructors in the law enforcement and traffic safety fields. The individual who reported his experience to be "minimal" is a training officer for an ASAP program who has thus far had only a two-hour checkout on the breath testing equipment by the manufacturer. All but one of these five individuals report being competent to operate at least one of the precision breath testing devices covered in the NHTSA curriculum materials. Four additional individuals did not state whether or not they were competent to operate any of the precision breath testing devices covered in the curriculum materials. It may be concluded, therefore, that almost all of the individuals were either knowledgeable in the breath testing field or interested in learning about the curriculum materials so that they might initiate training programs in their areas.

Approximately two-thirds (53) of the enrollees report having taken previous courses in the breath testing field. Of those who indicated where they received their training, most reported attending one or more courses similar in content and time to the training program described in the NHTSA curriculum materials; others have attended training sessions given by the equipment manufacturers (coverage and duration not known).

Teaching Experience

The previous teaching experience reported by the enrollees is as follows:

Years of Experience	Enrollees
None	10
Less than 1	9
1-2	16
3-5	22
6-10	9
11-20	6
Not stated	5
Total	77

The enrollees report their previous teaching experience as ranging from none to 20 years. Forty-one of the enrollees report having taken previous instructor training courses. In view of their previous teaching experience and the previous instructor training they report having received, it may be concluded that the majority of the enrollees were not neophytes in the instructional field. The fact that many enrollees report previous teaching experience is not considered to be detrimental to the objectives of the series of instructor training institutes. At the institutes, these enrollees are given the opportunity to apply their skills to the curriculum materials, to be critiqued, and to observe and critique the teaching techniques of others.

Formal Education

Enrollees report having achieved the following levels of formal education:

Education	Enrollees
High school	44
Associate degree	4
Bachelor's degree	25
Master's degree	3
Not stated	1
Total	77

The table shows that all enrollees have a high school diploma as a minimum, and approximately 40% have received degrees beyond high school.

Training Expectations

Included in this section are the enrollee's plans or expectations relative to BES training in his area. Specifically covered are the number of students to be trained by the enrollee during an ensuing 12-month period; whether or not the enrollee will be initiating/teaching BES courses in the near future and, if so, the size of the class; the area covered by the enrollee's personal training efforts where classes will be conducted; sources of financial support for training; the nature of training materials previously used; and whether or not enrollees will use the NHTSA curriculum materials.

The number of students enrollees expect to be training within an ensuing 12-month period are given below. In order to preserve the original data as much as possible, no attempt has been made to utilize equal categories in the grouping.[1]

No. of Students To be Trained	Enrollees
None	1
10-24	6
25-40	8
50-75	7
100-150	9
180-200	15
238-270	7
300	3
400	2
500	4
600	3
900	1
1000	2
Unknown	6
Not stated	3
Total	77

The data are presented for general information only regarding the number of students each enrollee expects to train. The numbers cannot be summed since two or more enrollees in a state may be responsible for training the same individuals.

[1]These data are not presented in a form suitable for statistical analysis. They are grouped somewhat only to avoid reproducing all original data.

The data show that some of the programs will be very small, with individuals responsible for training as few as 10 students in a year; approximately one-third of the enrollees report that they will be training over 200 enrollees in the ensuing year. It might be noted that four of the enrollees specifically mentioned that they would be training students to use sampling devices only, not precision test devices; these include the two individuals who reported they would be training 1000 students, one individual who reported he would train 500 students, and one individual who reported he would train 100 students.

When asked whether they would be initiating/teaching BES courses in the near future, 70 enrollees reported that they would, two indicated that they probably would, and five reported that they would not. The number of students to be trained in these classes was reported as follows:

No. of Students In Next Class	Enrollees
4-8	4
10-16	10
20-28	24
30-37	13
40-48	3
50	3
200	1
Unknown	4
Not Stated	8
Total	70

As with the tabular data presented previously, the information provided has been grouped but there has been no attempt to make equal categories from the groupings.[1] The enrollees report that their class sizes will vary from four students to 200 students; about half of the enrollees report that class size will be 28 students or less.

The area covered by the enrollee's personal training efforts was reported as follows:

[1]See footnote on previous page.

Area Covered[1]	Enrollees
City	6
County	1
Multiple county	3
State	64
Not stated	3
Total	77

The data show that by far the majority of enrollees will be associated with state-wide training programs. Even two individuals who represent municipal law enforcement services report that they expect their training efforts to be statewide.

When asked where classes would be conducted, enrollees reported the following:

Where Classes Are To Be Conducted	Enrollees
On-the-job or within agency	61
University or junior college	7
Both on-the-job and in colleges	4
Not stated	5
Total	77

The majority of the enrollees report that training will take place on-the-job or within the agency; since police personnel are largely involved as breath examiner specialists, it is assumed that training takes place largely in police training academies.

Funding for training was reported to be from the following sources:

[1]For this tabulation, Puerto Rico (one enrollee) was counted as a state.

Source of Training Funds	Enrollees
Highway Safety Act, Section 402	51
Sections 402 and 403	3
Section 402 plus tuition	3
Section 402 plus Vocational Education Act	1
State funds	6
Local funds	5
No funding	1
Unknown	3
Not stated	4
Total	77

The table shows that 58 of the enrollees expect that Section 402 funds will be utilized as financial support for their BES training programs.

Enrollees report the following materials previously used for BES training:

Training Materials	Enrollees
Their own materials	47
No materials	8
NHTSA materials	3
Manufacturer's materials	3
Unknown	1
Not stated	15
Total	77

It is interesting to note that 47 of the enrollees report using their own training materials. These are sometimes completely self-developed or represent one or a combination of well-known courses that have been in existence for some time. Three enrollees report previous use of the NHTSA materials; they are all from the same state which was the first known state to adopt and use the NHTSA instructional materials.

When asked to indicate whether or not they expected to use the NHTSA instructional materials in their future training, enrollees responded as follows:

Will Probably Use NHTSA Materials	Enrollees
Yes	48
Yes--partially	20
No	3
Unknown	3
Not stated	3
Total	77

The data show that 68 enrollees plan to use the NHTSA materials or at least some part of them. Only three enrollees (representing two states) reported that they do not expect to make any use of the materials.

Summary Comments

A total of 77 individuals attended the instructor training institutes; they came from 42 different states plus Puerto Rico and the District of Columbia. About half of the enrollees expect to be involved as instructors in breath examiner specialist training courses; about one-quarter serve in coordinating or supervisory roles; the remainder have other responsibilities. About two-thirds of the enrollees represent a law enforcement service; the remainder come from state departments, or laboratories, universities, or alcohol safety programs. Their experience in both the breath testing and teaching fields ranges from none to at least 20 years; 41 of the enrollees report having taken previous instructor training courses. All enrollees have a high school diploma as a minimum and about 40% have achieved degrees beyond high school. For those enrollees who reported the number of students they would personally be responsible for training in an ensuing 12-month period, the number ranged from 10 to 1000; most enrollees report dealing with class sizes of 50 or fewer students. Most enrollees report being involved in state-wide training programs; courses are typically conducted on-the-job or within the agency using 402 funds. Forty-seven of the enrollees reported having their own BES training materials. Sixty-eight of the enrollees report that they will use all or some of the NHTSA curriculum materials in their future BES training.

INSTITUTE CONDUCT AND EVALUATION

In this section are discussed the outline and schedule used at each of the institutes, procedures used and forms filled out at the institutes, and evaluative information obtained from institute enrollees.

Institute Outlines and Schedule

Although the primary emphasis of the five-day institutes was on the development of teaching skills, the actual purpose was two-fold: to introduce enrollees to the NHTSA curriculum package and to teach them the fundamentals of teaching. In addition, as was learned during the emergency medical technician instructor training institutes, enrollees have a need to exchange information with their counterparts in other states or areas. Many enrollees have been associated with breath examiner specialist training programs that are very similar in content and time frame to the program described in the NHTSA curriculum package. The opportunity to exchange information regarding their experiences with their counterparts can provide them with helpful hints on how particular problems are solved in other areas. Such exchanges of information can also prove invaluable to the individual who is new to the field and attempting for the first time to set up a breath examiner specialist training program.

In addition to introductory and closing sessions, therefore, it was determined that the following coverage would be required:

- BES course and course documents
- Course planning considerations
- Teaching-learning process
- Utilizing the lecture-discussion technique
- Instructional aids
- Developing equipment operating skills
- Conducting laboratory sessions
- Developing written tests

In addition to the preceding topics, the following workshops were included in the schedule:

- Practice teaching workshops in which enrollees taught from a segment of the NHTSA instructional materials and were evaluated on their presentations
- A workshop which included practical experience in developing simple instructional aids
- A workshop which provided practical experience in developing various types of written test items pertinent to the breath examiner specialist course

The institute schedule was designed to accommodate an 8:30 A.M. to 4:30 P.M. day. In order to facilitate enrollee return travel to their home base, sessions ended at noon on the last day of the institute.

The resultant institute schedule is shown in Figure 1. In developing the schedule, it was determined that an initial introduction to the BES course should be presented the first morning. In addition, it was determined that practice teaching workshops should be held in the morning and afternoon starting on the second day of the institute. In these workshops, enrollees gave a presentation of approximately 15 minutes duration and were then critiqued for approximately 15 minutes. Since practice teaching workshops were inserted early in the schedule, some enrollees taught from the lesson plans without the benefit of all the teacher-trainer instruction. However, it was felt that enrollee interest would be better maintained by inserting practice teaching workshops throughout the schedule rather than by conducting them all at the end of the institute.[1] In the critique, therefore, students were evaluated only on the teaching techniques presented at the time their workshop was inserted in the schedule.

For the practice teaching workshops, it was determined that both background topics (e.g., properties of alcohol, metric system, state statutes) and equipment-related topics should be included. To assist enrollees in making their presentations, some visual aids were provided at each of the institutes for their use. These included slides of all exhibits in the Student

[1] A similar procedure proved effective at the emergency medical technician instructor training institutes.

COURSE SCHEDULE

BREATH EXAMINER SPECIALIST INSTRUCTOR TRAINING INSTITUTE

A. M. 8:30	1. Institute Overview 2. BES Course and Course Documents 3. Course Planning Considerations	7. Practice Teaching Workshop (2 enrollees) 8. Instructional Aids	11. Practice Teaching Workshop (2 enrollees) 12. Workshop: Developing Instructional Aids	15. Practice Teaching Workshop (2 enrollees) 16. Developing Written Tests	19. Application of Institute Principles 20. Evaluation, Forms Completion, Graduation
11:45					
P. M. 1:00	4. Teaching-Learning Process 5. Utilizing the Lecture-Discussion Technique 6. Workshop Planning	9. Practice Teaching Workshop (3 enrollees) 10. Developing Equipment Operating Skills	13. Practice Teaching Workshop (3 enrollees) 14. Conducting Laboratory Sessions	17. Practice Teaching Workshop (3 enrollees) 18. Workshop: Developing Written Tests	
4:30					

Figure 1.

Study Guide as well as slides and schematics of all five precision breath testing devices covered in the NHTSA curriculum materials. In addition, manufacturers of the Alco-Tector and Breathalyzer provided one of their devices for use by enrollees at each of the five institutes.

The lesson outlines developed as part of this project are included in Appendix C.[1] The document includes objectives and requirements for each lesson as well as details of coverage for the lesson. It also includes copies of all handouts provided to enrollees except the NHTSA instructional materials and the completion certificate.

The objectives of each of the lessons presented at the institutes follow:

1. Institute Overview

   Provide the enrollee with an overview of the objectives, scope, and procedures of the BES Instructor Training Institute

2. The BES Course and Course Documents

   Familiarize enrollees with:

   - Course development procedures
   - Course documents

   Provide enrollees with a detailed description of the Instructor's Lesson Plans

3. Course Planning Considerations

   Review the following course planning considerations:

   - Class size
   - Course scheduling
   - Facilities
   - Course instructors
   - References
   - Materials and equipment

[1] Institute lesson outlines were reproduced and a copy was mailed to each enrollee at the completion of the series of institutes.

4. Teaching-Learning Process

Identify the four major phases involved in the preplanning and execution of the teaching-learning act and key points pertinent to each phase:

- Preparation
- Presentation
- Application
- Evaluation

Explain how the four-step process was applied to the Instructor's Lesson Plans

5. Utilizing the Lecture/Discussion Technique

Provide the enrollee with hints for effectively utilizing lecture/discussion techniques in developing student knowledge

6. Workshop Planning

Inform enrollees of the procedures and assignments for the practice teaching workshops

7. Practice Teaching Workshop

Provide enrollees with an opportunity to teach segments of the lesson plans

8. Instructional Aids

Discuss purpose and use of instructional aids

Discuss advantages, disadvantages and hints for effectively utilizing:

- Chalkboards and chart pads
- Prepared slides
- Slides and film strips
- Overhead transparencies
- Films

9. Practice Teaching Workshop

Provide enrollees with an opportunity to teach segments of the lesson plans

10. Developing Equipment Operating Skills

Teach enrollees the basics of good practices in developing equipment operating skills:

- Plan for skill development
- How to demonstrate skills
- Complimenting and correcting the learner

11. Practice Teaching Workshop

Provide enrollees with an opportunity to teach segments of the lesson plans

12. Workshop: Developing Instructional Aids

Provide each enrollee with the opportunity to develop a variety of simple instructional aids

13. Practice Teaching Workshop

Provide enrollees with an opportunity to teach segments of the lesson plans

14. Conducting Laboratory Sessions

Review with enrollees procedures to follow in conducting laboratory sessions

Provide enrollees with the opportunity to share experiences of others relative to conducting laboratory sessions

15. Practice Teaching Workshop

Provide enrollees with an opportunity to teach segments of the lesson plans

16. Developing Written Tests

Teach enrollees how to develop written tests to evaluate achievement of knowledge using:

- True-false items
- Multiple-choice items
- Matching items
- Completion items
- Essay items

Provide enrollees with techniques for:

- Test construction, administration and scoring
- Interpretation of test results
- Utilization of test results

17. Practice Teaching Workshop

Provide enrollees with an opportunity to teach segments of the lesson plans

18. Workshop: Developing Written Tests

Provide each enrollee with an opportunity to develop a variety of written test items

19. Application of Institute Principles

Provide enrollee with an opportunity to demonstrate assimilation of principles taught at the institute

20. Institute Evaluation, Reimbursement Forms Completion and Award of Completion Certificates

Obtain enrollee comments and opinions on the value of the institute and their suggestions for improving the institute

Describe procedures for completion of reimbursement forms

Award completion certificates

Institute Conduct and Procedures

All institutes as planned proceeded on schedule. The number of enrollees attending each of the institutes was as follows:

New Britain, Connecticut	-- 15
Atlanta, Georgia	-- 16
San Mateo, California	-- 12
Lansing, Michigan	-- 17
Denver, Colorado	-- 17
Total	77

Enrollment by both mail and telephone remained opened and subject to change up to the start of each institute. Three enrollees failed to appear for the institutes.

Copies of the NHTSA curriculum materials were distributed to enrollees at each institute. These included the detailed Instructor's Lesson Plans, the Course Guide and the Student Study Guide.

Student registration at the institute included completion of a registration form prepared by Dunlap and Associates, Inc., and designed to obtain certain detailed information on the enrollee's breath examiner specialist training program. Although originally designed to be completed the first morning of the institute, it was subsequently determined that it should be completed on the last day of the institute. It included a question on whether or not enrollees planned to use the NHTSA instructional materials, and most enrollees apparently had not seen the instructional materials prior to attending the institute. By the last day of the institute, each enrollee had an opportunity to review the materials provided and make a better judgment regarding whether or not he would be utilizing the materials in his training efforts. A copy of this registration form is included in Appendix A.

Also on the last day of the institute, enrollees completed both reimbursement and evaluation forms; copies of both forms appear in Appendix A. Enrollee reimbursement for travel and subsistence was made by mail, in most cases within one to two weeks following completion of the institute attended. The evaluation form was designed to obtain information on the value of the institute to the enrollee as well as information that might be useful in improving future institutes in the highway safety program. Information obtained from the evaluation form is presented below.

A completion certificate for the five-day course was prepared by the National Highway Traffic Safety Administration. It was distributed to enrollees on the last day of the institute. Where this was not possible (e.g., due to a last minute change in enrollee registration), the completion certificate was mailed to the enrollee at the completion of the institute.

All institutes were team-taught. The teacher training aspects of the institutes were taught by educators from Central Connecticut State College in New Britain, Connecticut, the site of the first institute. Topics specifically related to the NHTSA curriculum materials (that is, coverage of the first morning of the institute and the session on conducting laboratory sessions) were taught by a representative from Dunlap and Associates, Inc., who had participated in the development of the curriculum materials.

Institute Evaluation

The institute evaluation form completed on the last day of the institute contained both structured and unstructured segments. The structured segment provided the enrollee with an opportunity to rate the value to him of various sessions of the institute as well as the institute as a whole. The enrollee also had an opportunity to indicate whether or not he would like to see additional topics covered and, if so, what topics. The unstructured segments of the form permitted the enrollee to indicate in what way the institute could have been made more useful to him and to make any other comments or recommendations he considered appropriate.

The percentage of enrollees selecting each value rating for the various institute sessions and for the institute as a whole are given below. An attempt has been made to list the sessions in decreasing order based on the percentage of enrollees who rated the sessions as exceptionally valuable or quite valuable.

Institute session	Percentage of enrollees				
	Excep-tional value	Quite valua-ble	Limi-ted value	No value	No answer
The entire institute	48.1	48.1	2.6	--	1.3
Teaching-learning process	48.1	46.8	5.2	--	--
Instructional aids	62.3	32.5	5.2	--	--
Utilizing the lecture-discussion technique	39.0	55.8	5.2	--	--
Developing written tests	39.0	54.5	6.5	--	--
Practice teaching workshops-other enrollees	48.1	44.2	7.8	--	--
Practice teaching workshop-enrollee's own	50.6	36.4	11.7	1.3	--
Instructional aids workshop	44.2	41.6	13.0	--	1.3
Written test workshop	27.3	55.8	14.3	1.3	1.3
Conducting laboratory sessions	13.0	51.9	30.0	1.3	3.9
Developing equipment operating skills	15.6	36.8	31.2	2.6	3.9

Seventy-four (96%) of the enrollees found the entire institute to be either quite valuable or of exceptional value. Two enrollees (3%) found the institute to be of limited value, and one enrollee did not indicate the value of the institute. These data substantiate the general feeling of enthusiasm observed in enrollees at all institutes and are considered indicative of the overall value of the NHTSA instructional training programs for its highway safety courses.

In view of the diversity of the enrollees in terms of background, responsibilities relative to BES training, and education, it is interesting to note that a minimum of 62% of enrollees found all sessions to be either quite valuable or of exceptional value. The two sessions receiving the largest number of "limited" or "no" value ratings were concerned with developing equipment operating skills and sharing experiences on conducting laboratory sessions. Although the exact reason for these ratings is not clear, it is possible that enrollees did not find the session on developing equipment operating skills pertinent enough to their particular breath testing equipment since it was academic in nature and used as an example a skill task unrelated to breath testing. With regard to the session on conducting laboratory sessions, many enrollees found this session of limited value because the content and coverage is standard operating procedure

at the present time for their breath testing programs. Others, however, found the session of value because they learned what was being accomplished in programs other than their own.

With regard to additional topics, 23 enrollees reported that they would like to see other topics covered. Although no real pattern existed, some of the comments made may be of interest. Four enrollees reported various police topics not necessarily related to breath testing (e.g., radar). Three reported interest in learning how to motivate a class, three wanted more information on instructional aids, and two wanted more practice teaching time (the last two obviously not "additional topics"). Other topics requested included details of running a breath examiner specialist school (as contrasted to teaching), the psycl ology of education, establishment of breath testing standards, demonstrations of all equipments used by the different states, methods of communicating technical information to a jury, semantics in general, class management and control, topics devoted to breath alcohol testing and preparing public information for breath alcohol testing, training of judges, and a lecture-discussion session at the beginning of the institute to exchange ideas and get acquainted.

The remaining questions on the evaluation form requested enrollees to indicate how the institute could have been made more useful to them and solicited other comments and recommendations. Because these sections were unstructured in design, enrollees tended to make comments on their overall impressions of the institute. Although such impressions do not lend themselves to easy tabulation, it might be noted that in general comments were exceptionally laudatory not only for the institute content but also for the instructors. Enrollees appeared enthusiastic about what they had learned and would like others in their departments and elsewhere to share in their experience. Specific recommendations and suggestions that were made include the following:

- Provide more time overall for the institute and particularly for sessions on instructional aids and practice teaching sessions

- Provide time for more open discussion of programs each enrollee is associated with, including equipment used, state laws, body fluids accepted for analysis, breath testing procedures, etc.

- Provide more materials to take back to the local community, particularly instructional aids

- Provide for future follow-on meetings so that contacts with other individuals in other states may be maintained and exchange of information can be continued

- Make the institutes available to more people

Summary Comments

All institutes proceeded on schedule and ran smoothly Although three enrollees failed to show up for their assigned institute the national quota of 75 was still exceeded by two enrollees (for a total of 77 enrollees) since the contractor had over-enrolled the series of institutes. Ninety-six percent of the enrollees found the institute to be either quite valuable or exceptionally valuable Comments received from enrollees were in general very laudatory in nature It appears from these comments that the institutes were very well received Enrollees appear to appreciate the value of NHTSA's course-related instructor training institutes. Since the institutes are tied in with the curriculum package, they cover only techniques of teaching that are required by that package. In addition, since enrollees have a common interest despite their diversity in backgrounds, experience, and training expectations, the institutes provide them with an opportunity to share experiences with their 'peers' and to improve their training programs through the experiences of others. It is not believed that this could be accomplished if instructor training for all highway safety courses were combined.

APPENDICES

A. Forms Completed by Enrollees

B. Enrollee Roster

C. Lesson Outlines

D. NHTSA Curriculum Material Notice

APPENDIX A

This appendix contains forms completed by enrollees prior to and during institute attendance. The forms included are:

- NHTSA Enrollment Form (p. A-2)--a form designed to obtain information on the enrollee, particularly his experience with breach alcohol examination and as an instructor. The form was completed by the enrollee and mailed to the contractor prior to formal enrollment.

- Contractor Memorandum to Enrollees (pp. A-3 through A-6)--this memorandum was mailed to enrollees prior to institute attendance (the one included is for the San Mateo institute; those for other institutes were similar). It explained the purpose of the institutes, the date and place of the institute and procedures for lodgings, transportation and reimbursement. The tear-off sheet was completed by enrollees and mailed to the contractor as confirmation of intention to attend the institute.

- Registration Form (pp. A-7 and A-8)--this form was completed at the institute. It was designed to obtain information on the enrollee's training program.

- Reimbursement Form (p. A-9)--this form permitted enrollees to itemize their institute expenses.

- Institute Evaluation (pp. A-10 and A-11)--on this form enrollees expressed their opinions about the value of the institute and means of improving future institutes.

National Highway Traffic Safety Administration
U.S. Department of Transportation

ENROLLMENT INFORMATION for INSTITUTE:
"TECHNIQUES of TRAINING BREATH EXAMINERS"

ENROLLEE:

1. Name: _____
(as to appear on course completion certificate)

Title: _____

Employing Agency: _____

Business Address: _____

City, State, Zip Code: _____

Telephone: _____

Name of Alternate: _____

2. Previous experience in alcohol breath examination (__ __) Years (_____) Months

Competent to operate equipment (check)

_____ Alco-Analyzer Gas Chromatograph
_____ Alco-Tector
_____ Breathalyzer
_____ Gas Chromotograph Intoximeter
_____ Photo-Electric Intoximeter
_____ Other (Specify) _____

3. Formal Education (check)

_____ Less than high school
_____ Associate degree
_____ High school
_____ Bachelor or postgrad degree
_____ Other (Specify) _____

4. Training Courses Completed

_____ Breath Examiner (Specify) _____
_____ Instructor Training

5. Instructor Responsibility

Previous experience, if any, as instructor (_____) Years (_____) Months

Estimated numbers of trainees you will personally instruct in an ensuing 12-month period _____

6. Additional information of possible significance in planning and conducting the Instructor Training Institute:

_____

_____

NOTE: Enrollment is in effect only following the receipt of the completed form by Dunlap and Associates, Inc. and their written acknowledgement to you in return.

MEMORANDUM

DATE: 11 February 1972

TO: Attendees, BES Instructor Training Institute

FROM: Arlene M. Cleven
Dunlap and Associates, Inc.

SUBJECT: Institute Arrangements

Date and Place of Institute

A place has been reserved for you to attend the BES Instructor Training Institute being given in San Mateo, California, from April 10 through April 14, 1972. This is one of five such regional institutes being given throughout the United States. The College of San Mateo is serving as host for the Institute.

The Institute will be conducted daily from 8:30 a.m. to 4:30 p.m., except for Friday when classes will end at noon. Classes will meet in a conference room of the Villa Hotel, San Mateo, California.

Lodgings

A block of rooms has been reserved at the Villa Hotel for Institute attendees. The cost of single accommodations is $14.00 per day, plus tax. If you wish to stay at the hotel, please make your own reservations (or those of your alternate) by contacting Florence Dellos, Villa Hotel, 4000 South El Camino Real, San Mateo, California 94403, telephone: 415 - 341-0966, prior to March 15, 1972. When making your reservations, indicate that you are attending the Dunlap and Associates Instructor Training Institute.

Air Travel Facilities

Those traveling by air will arrive at San Francisco International Airport. There is a direct phone from the airport to the Villa Hotel. Attendees should contact the hotel by this phone for free transportation between the airport and the hotel.

Institute Coverage

The purpose of the Institute is to train instructors to teach the Department of Transportation Basic Training Program for Breath Examiner Specialist. The course emphasis, therefore, is on the development of teaching skills as opposed to breath testing skills since it is assumed that all attendees are knowledgeable in the breath testing field. A tentative course schedule for the Institute is attached.

Institute Instructors

The course will be taught by qualified university educators from Central Connecticut State College. These educators have had extensive experience in teacher training.

Reimbursement Policies

Reimbursement policies pertinent to the Institute attendees are given below:

Transportation

Attendees will be reimbursed for one of the following (whichever is cheaper):

1) Air travel--economy class, supported by receipt

or 2) Ground travel--10¢ per mile plus tolls, supported by receipt (no car rentals)

Travel to and from airports and Institute classes will also be reimbursed--no car rentals.

Hotel

Actual cost of accommodations up to a maximum of the price indicated on Page 1 of this memorandum--supported by receipt--maximum of 5 days.

Subsistence

$10.00 for each day of attendance at the Institute--maximum of 5 days

For local commuters to the Institute, reimbursement will be as follows:

$2.50 for subsistence--maximum of 5 days
10¢ per mile for travel to and from classes

Forms for reimbursement will be available at the Institute; each attendee will submit a travel voucher on the last day of the Institute. Payment will be made directly to the enrollee within two weeks from receipt of reimbursement form and supporting receipts.

Attendance Confirmation

Kindly complete the attached form and return it in the enclosed envelope prior to February 21, 1972.

AMC/met

Name: _____

State: _____

☐ I will attend the scheduled Institute.

☐ I am unable to attend the scheduled Institute. The following individual will attend in my place.

Name: _____

Title: _____

Address: _____

_____

Phone: _____

REGISTRATION FORM

BES INSTRUCTOR TRAINING INSTITUTE

Name: _____

Title: _____

Address: _____

_____

_____

_____

Telephone: _____

Role in BES Program: _____

Will you be initiating/teaching BES courses in the near future?

_____Yes _____No

If "yes," estimated date and place of next course:

Date	Place	Est. No. of Students

Will your personal training efforts:

_____ Be confined to a particular community (identify)_____

_____ Be confined to a particular county (identify)_____

_____ Be state-wide

_____ Other (specify)_____

Classes to be conducted:

_____ On-the-job or within agency

_____ University or junior college

_____ Other (specify) _____

Source of financial support:

_____ Highway Safety Act - Sec. 402 and State/Community

_____ Vocational Education Act and State/Community

_____ Other (specify) _____

Nature of curriculum materials, lesson plans, student guides, etc., previously used (describe):

_____

_____

_____

Will probably use curriculum material developed by NHTSA:

_____Yes _____ No

Comment: _____

General Comment on State/Community training course:

_____

_____

_____

Equipment you will be training individuals to operate:

_____ Alco-Analyzer Gas Chromatograph
_____ Alco-Tector
_____ Breathalyzer
_____ Gas Chromatograph Intoximeter
_____ Photo-Electric Intoximeter
_____ Other (specify)_____

REIMBURSEMENT FORM
BES INSTRUCTOR TRAINING INSTITUTE

Name: _____
Address: _____
_____
_____

Dates: from _____ to _____

AIR TRAVEL

Home to Airport:	Limousine/taxi	_____
	Car (___ miles at 10¢/mile)	_____
Air Economy:	(supported by receipt)	_____
Airport to Hotel:	Limousine/taxi	_____
Hotel to Airport:	Limousine/taxi	_____
Airport to Home:	Limousine/taxi	_____
	Car (___ miles at 10¢/mile)	_____

GROUND TRAVEL

Home to Hotel:	(___ miles at 10¢/mile)	_____
Hotel to Home:	(___ miles at 10¢/mile)	_____
Tolls:	(supported by receipt)	_____
To and from classes:	(___ miles at 10¢/mile) (New Britain only)	_____

SUBSISTENCE

Hotel:	Single room, supported by receipt (max.: 5 days)	_____
	Plus $10.00 per day (max.: 5 days)	_____
	TOTAL:	_____

LOCAL COMMUTERS ONLY:

Subsistence: $2.50 per day (max.: 5 days)	_____
To and from classes: ___ miles at 10¢ per mile	_____
TOTAL:	_____

_____
(signature)

APPROVED: _____
Institute Instructor

_____
A. M. Cleven

INSTITUTE EVALUATION

The purpose of this Institute was to train you to teach the NHTSA Basic Training Program for Breath Examiner Specialist. The emphasis was on the development of teaching skills as opposed to breath testing skills. In order to improve this series of institutes as well as similar institutes planned for other highway safety programs, we would appreciate the benefit of your comments and recommendations.

Please rate each of the institute sessions according to their value to you as an instructor by placing an "x" in one of the four boxes at the left below. Use the right column for any comments you care to make.

No Value	Limited Value	Quite Valuable	Exceptional Value		Comments
				The teaching-learning process	
				Utilizing the lecture-discussion technique	
				Practice teaching workshop--your own	
				Practice teaching workshops--others	
				Instructional aids	
				Instructional aids workshop	
				Developing equipment operating skills	
				Conducting laboratory sessions	
				Developing written tests	
				Written test workshop	
				The entire institute	

Would you like to see other topics covered? _____Yes _____No

If "yes," what topics?

In what way could the institute have been made more useful to you?

Other comments and recommendations

Name (optional)_____

APPENDIX B

ENROLLEE ROSTER

Walter A. Goolsby, Sergeant
Alabama Department of Public Safety
500 Dexter Avenue
Montgomery, Alabama 36104

Ted K. Payne, Sergeant
Alabama Department of Public Safety
500 Dexter Avenue
Montgomery, Alabama 36104

Michael A. Korhonen, Sergeant
Public Safety Academy
Department of Public Safety
P.O. Box 1210
Sitka, Alaska 99835

Howard A Bowers, Sr., Lieutenant
Arkansas Law Enforcement
Training Academy
State Capitol Room 011
Little Rock, Arkansas 72201

Philip I. Peters
Chemist, Blood Alcohol Laboratory
State Department of Health
4815 West Markham Street
Little Rock, Arkansas 72201

Richard L. Kerri, Sergeant
California Highway Patrol
3100 Meadowview Road
Sacramento, California 95832

Louis A. Maucieri
Criminalist, California Department
of Justice
Criminalistics Laboratory
3301 C Street
P.O. Box 13337
Sacramento, California 95813

Harry Burroughs, Detective
Denver Police Department
1257 Champa Street
Denver, Colorado 80204

Thomas J. Lehman, Detective
Denver Police Department
1257 Champa Street
Denver, Colorado 80204

J. Robert Zettl
Senior Microbiologist
Chief, Laboratory Evaluation
and Consultation
Colorado Department of Health
4210 East 11th Street
Denver, Colorado 80220

John A. Gwiazda, Captain
New Britain Police Department
Columbus Boulevard
New Britain, Connecticut 06051

William Robert Carter, Sergeant
Delaware State Police
Troop 3, Camden
Box 557
Dover, Delaware 19901

Thomas J. Albanese, Sergeant
Wilmington Bureau Police
10th and King Streets
Wilmington, Delaware 19801

Paul R. McAdam
Motorcycle Officer
Metropolitan Police Department
300 Indiana Avenue, N.W.
Room 1117
Washington, D.C. 20001

Edward J. Irwin
Chief, Alcohol Breath Testing Inspector
Florida Division of Health
P.O. Box 210
Jacksonville, Florida 32201

J. Brown Moseley
Laboratory Scientist
State Crime Laboratory
959 Confederate Avenue
Atlanta, Georgia 30316

Frank H. Shields III
Chemist, Idaho Department of Health
Laboratories Division
2120 Warm Springs
Boise, Idaho 83706

James H. Wiggs
Chemist, Idaho Department of Health
Laboratories Division
2120 Warm Springs
Boise, Idaho 83706

Walter B. Ziel
Coordinator, Breath-Alcohol Studies
Police Training Institute
University of Illinois
606-1/2 East Green Street
Champaign, Illinois 61820

Hobart M. Henson
Chemical Test Supervisor
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APPENDIX C

LESSON OUTLINES

This appendix contains the lesson outlines used by instructors at each of the five institutes. It includes the complete document (title page, foreword, schedule, outlines for Units 1 through 20 and appendices) as it was submitted to enrollees as part of the institute follow-on services. Pages have been renumbered to avoid confusion with other sections of this report.

Breath Examiner Specialist

Instructor Training Institute

LESSON OUTLINES

Dunlap and Associates, Inc.
Darien, Connecticut 06820

May 1972
Contract DOT-HS-099-1-140

Prepared for:

U. S. Department of Transportation
National Highway Traffic Safety Administration
Washington, D. C. 20590

The opinions, findings and conclusions expressed in this publication are those of the authors and not necessarily those of the National Highway Traffic Safety Administration

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FOREWORD

The U.S. Department of Transportation, National Highway Traffic Safety Administration recently supported the development of a basic training program for Breath Examiner Specialists. The detailed Instructor's Lesson Plans, Course Guide and Student Study Guide, prepared by Dunlap and Associates, Inc., provide a standardized means of training the specialist concerned with breath testing of drinking driver suspects.

As part of its continuing efforts in behalf of highway safety, NHTSA sponsored the conduct of five regional instructor training institutes in the spring of 1972. The purpose of these institutes was to train individuals to teach the Basic Training Program for Breath Examiner Specialist. In all, 77 individuals completed the five-day institute.

This document contains the course schedule and outlines of instruction given at each of the institutes. An appendix includes handouts given to enrollees at the various institutes. These materials were prepared by Dunlap and Associates, Inc., in collaboration with Central Connecticut State College, New Britain, Connecticut. The course was team-taught by representatives from Dunlap and Associates, Inc., and by educators from Central Connecticut State College.

The dates, sites and colleges that served as hosts for the institutes are as follows:

- March 6-10: New Britain Connecticut
  Host: Central Connecticut State College
- March 20-24: Atlanta, Georgia
  Host: DeKalb College, Clarkston, Georgia
- April 10-14: San Mateo, California
  Host: College of San Mateo
- April 17-21: Lansing, Michigan
  Host: Lansing Community College
- April 24-28: Denver, Colorado
  Host: Community College of Denver

The project was directed by Miss Arlene Cleven of Dunlap and Associates, Inc. Mr. Joseph Fucigna, Executive Vice President of the Corporation, served as Responsible Corporate Officer as well as the Corporate representative at each of the institutes. Educators from Central Connecticut State College who taught at the various institutes were Dr. Joseph Duffy, Dr. Philip Masley, Dr. John Chow, Dr. Andrew Baron, Mr. Sanford Rich and Mr. George Barnhardt.

INSTITUTE SCHEDULE

AND

OUTLINES

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COURSE SCHEDULE *

BREATH EXAMINER SPECIALIST INSTRUCTOR TRAINING INSTITUTE

A.M.					
8:30	1. Institute Overview 2. BES Course and Course Documents 3. Course Planning Considerations	7. Practice Teaching Workshop (2 enrollees) 8. Instructional Aids	11. Practice Teaching Workshop (2 enrollees) 12. Workshop: Developing Instructional Aids	15. Practice Teaching Workshop (2 enrollees) 16. Developing Written Tests	19. Application of Institute Principles 20. Evaluation, Forms Completion, Graduation
11:45					
P.M.					
1:00	4. Teaching-Learning Process 5. Utilizing the Lecture-Discussion Technique 6. Workshop Planning	9. Practice Teaching Workshop (3 enrollees) 10. Developing Equipment Operating Skills	13. Practice Teaching Workshop (3 enrollees) 14. Conducting Laboratory Sessions	17. Practice Teaching Workshop (3 enrollees) 18. Workshop: Developing Written Tests	
4:30					

* All topics listed in the schedule were covered at each institute. However, at some institutes, the sequence of topic coverage varied from that shown in the schedule.

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Time: 45 min.

UNIT 1
INSTITUTE OVERVIEW

Objectives: Provide the enrollee with an overview of the objectives, scope, and procedures of the BES Instructor Training Institute

Requirements: Institute schedule (one for each enrollee)
D&A Institute Registration form (one for each enrollee)
DOT Enrollment form (one for each enrollee who has not previously completed the form)

WELCOMING REMARKS

1. Teacher introduction
2. Enrollee welcome

ADMINISTRATIVE MATTERS

(Distribute registration forms)

1. Enrollee completion of registration forms

INSTITUTE PURPOSE

1. The purpose of the Institute is to train enrollees to teach the Department of Transportation Basic Training Program for Breath Examiner Specialist.

2. The emphasis of the Institute is on the development of teaching skills as opposed to breath testing skills since it is assumed that all enrollees are knowledgeable in the area of breath testing.

3. The Department of Transportation is sponsoring the conduct of five such Instructor Training Institutes:

   a. They are being given this March/April in various regions of the U.S.

   b. This is the ___ (1st, 2nd, etc.) of such institutes.

   c. Others have been (will be) given in ___, ___, ___, and ___.

4. Similar institutes are being given for all 16 highway safety programs:

   a. Instructor training institutes for emergency medical technician and driver license examiner were given in the fall of 1971.

   b. Institutes for breath examiner specialist and accident site investigator are being given this spring.

   c. Institutes for the remaining eight programs are expected to follow.

   Thus, this is a broad exercise in instructor training for the Department of Transportation highway safety program.

ENROLLEE IDENTIFICATION

1. Enrollee introduction. Ask each to give the following information:

   a. Name
   b. Title
   c. State represented
   d. Role in his State's breath testing program
   e. Brief description of his State's training plan

INSTITUTE SCHEDULE

(Distribute Institute schedule)

1. Review the Institute schedule, indicating for each topical unit of the course:

   a. The reason for its inclusion relative to BES training
   b. What the teacher trainer will attempt to accomplish
   c. What the enrollee will accomplish

INSTITUTE PROCEDURES AND FACILITIES

1. Procedures and facilities relative to the Institute; that is:

   a. Rest breaks
   b. Lunch
   c. Reimbursement--form to be filled out on last day of course; make sure all enrollees understand the reimbursement policy
   d. Other, as appropriate

COLLEGE CREDIT

1. Explanation of college credit available for the Institute, including procedures and costs involved for those interested.

2. Explanation of how credits, costs, and procedures vary depending on whether the credit is desired from CCSC or other host institution.

QUESTIONS

1. Questions from the class regarding Institute coverage and procedures.

Time: 1 hr.

UNIT 2

THE BES COURSE AND COURSE DOCUMENTS

Objectives: Familiarize enrollees with:

- Course development procedures
- Course documents

Provide enrollees with a detailed description of the Instructor's Lesson Plans

Requirements: Course documents (one for each enrollee)

- Course Guide
- Instructor's Lesson Plans
- Student Study Guide

OBJECTIVES

1. Brief explanation of objectives of the unit of instruction

COURSE DEVELOPMENT

1. Basis for course development

   a. In view of the alarming role of the drinking driver in highway safety, the U.S. Department of Transportation recognized the need for developing a standardized approach for training breath examiner specialists.

   b. As the enrollee no doubt knows, there are several courses in existence for training breath examiners.

      1) Many of these courses are very good and most contain many common elements, such as the physiology and pharmacology of alcohol, a brief study of the metric system, etc.

      2) Most of these courses are specific to a given jurisdiction and a given type of breath equipment.

c. In the design of the current course, a major aim was to achieve standardization of topic coverage while permitting jurisdictional flexibility as appropriate in such areas as equipment used, suspect processing procedures, laws, etc.

2. Course development procedures (not necessarily sequential)

a. Obtaining information resources

1) Requests were made to state, county and municipal law enforcement agencies for information on training materials currently in use.

2) Requests were made to equipment manufacturers for manuals on equipment.

3) A library search was made to obtain references pertinent to alcohol and breath testing.

b. Decisions regarding equipment coverage

1) The following selection criteria were used:

a) Equipment must enjoy active or growing use in the United States (as of September ,1970 when the equipment list was finalized).

b) It must give a quantitative indication of blood alcohol concentration.

c) The breath sample must be analyzable on the spot; thus sampling devices which collect a sample of breath for subsequent laboratory analysis were eliminated.

d) Results of the precision breath test must be admissible in court.

2) The resultant equipment selected for coverage in the NHTSA curriculum package were:

a) Alco-Analyzer Gas Chromatograph
b) Alco-Tector
c) Breathalyzer
d) Gas Chromatograph Intoximeter
e) Photo-Electric Intoximeter

3) Indication that we realize other equipments have come into general use in the last year; however, a decision had to be made at some point in the curriculum package development cycle. It is believed that the equipment lesson plans as developed in the curriculum package will be adaptable to other equipment.

c. Job task analysis to determine course content

1) Primary sources for the job task analysis were:

a) Training information and materials received from some 33 state, county and municipal law enforcement training agencies.

b) Information obtained from staff visits to numerous law enforcement agencies.

c) Texts and other reference material related to breath testing.

2) Review of materials resulted in an early definition of the duties of a BES as follows:

a) Observe and/or interview a drinking driver suspect, administer psychomotor tests, and record descriptions of the suspect's behavior.

b) Administer a precision breath test for blood alcohol concentration to a drinking driving suspect--a test which yields on-the-spot quantitative results that are acceptable in court.

c) Testify in court, as necessary, regarding his observations of the suspect's behavior, procedures used in collecting and analyzing the breath sample and the breath test results.

3) In the job task analysis, detailed tasks were spelled out for each of the above three basic functions and an attempt was made to determine the associated knowledge required to perform that task.

4) The result was an inventory of knowledge and skills required by the BES to perform his job--specified minimum topic coverage for course.

d. It was next necessary to specify broad training objectives for the course:

1) Develop skill in the operation of a precision breath testing instrument and an understanding of the operational principles and design/functional features.

2) Provide an understanding of the technical, historical and legal background surrounding chemical testing.

3) Provide an understanding of the procedures for processing the suspect, gathering and recording evidence, and maintaining the chain of evidence.

4) Develop basic skills in testifying in court regarding observations of and tests performed on the suspect.

(Display lesson groups and titles)

e. A course outline was then developed--17 lesson plans divided into three groups constituting a minimum course of 44 hours--arranged in modular format so that lessons can be arranged to suit the requirements of the given training establishment.

f. Detailed lesson plans, a course guide and a student study guide were then developed--maximum possible use made of training materials previously developed--no intention to "reinvent the wheel."

g. Search for training aids--over 15 slide and motion picture presentations were previewed and none was found sufficiently enlightening, relevant or up-to-date to warrant inclusion in the training course.

h. Pilot test of the course at the Maryland State Police Headquarters in Pikesville, Maryland.

COURSE EMPHASIS

1. Principles affecting design of the course:

a. Course emphasizes development of practical skills related to the BES's job. Therefore, approximately half of total course time is devoted to student practice with the equipment and to assuring student understanding of the theory and operation of the equipment.

b. Students also practice giving testimony in a mock court and completing forms relative to suspect processing.

c. Course coverage of background subjects (technical, historical and legal background surrounding chemical testing) is felt necessary for two reasons:

1) Student should not just learn rote procedures of equipment operation without also attaining an understanding of why he is doing what he has to do.

2) A fundamental understanding of background material is required to make the student a truly competent witness in court.

d. The course would cover minor maintenance only; it was deemed that extensive equipment maintenance would not necessarily be a job requirement of each BES. Thus such training for individuals charged with detailed maintenance would be more appropriately provided by the equipment manufacturer.

(Distribute documents)

BES COURSE DOCUMENTS

1. Course Guide

a. It was designed to be used by the training administrator as the basic planning document for the course.

b. It contains a detailed description of the training program and suggestions for planning and implementing the training course.

c. Details included in the Course Guide will be covered in the unit on Course Planning Considerations.

2. Student Study Guide

a. The Student Study Guide was prepared as the basic reference source for the student.

b. It was necessary to prepare such a document since it was determined that no single reference text existed that met the unique requirements of this course.

c. The Study Guide includes specially prepared material as well as material that must be prepared and inserted locally since it will vary jurisdictionally.

d. It is designed to be used as a review of materials presented in class rather than as a reference for study assignments prior to attending class.

e. It will be discussed in more detail in the unit on Course Planning Considerations.

3. Instructor's Lesson Plans

a. It is the basic instructor training document and will be used throughout this Instructor Training Institute; it was prepared to aid the instructor in the day-to-day conduct of the course.

(Go through this document in some detail showing how it is organized)

b. Overview of contents:

1) Introductory material describing:

a) Objectives and scope of the course
b) Course content
c) Student and instructor references
d) Hints on using the lesson plans
e) Course emphasis in terms of teaching method
f) Instructor qualifications and responsibilities
g) Measurement of student achievement

2) Detailed plans for conducting each of the 17 lessons--explain how the lesson plans are organized into logical groups and that principles for organizing them into a course will be discussed in the unit on Course Planning Considerations.

3) Appendices containing:

a) References used in the development of lesson plans
b) Guidance for effective teaching
c) Guidance for developing written tests
d) Laboratory data recording forms

(Refer to actual lesson plan)

c. Design of a lesson plan

1) Each lesson plan consists of two parts:

a) Objectives and requirements

(1) Objectives--specified here are objectives of the lesson in terms of knowledge and skills to be developed.

(2) Requirements--specified here are requirements for:

(a) Number of instructors
(b) Instructor references
(c) Training aids

b) Outline of instruction--detailed procedures for conducting the lesson.

2) Estimates of both elapsed and projected times are given for two purposes:

a, To aid the instructor in maintaining his lesson on schedule.

b) To provide a means by which the instructor can determine the emphasis to be given to a specific area.

3) Hints to the instructor for varying his presentation and for obtaining class participation are given throughout the lesson plans.

4) Where specific exhibits in the Student Study Guide are referred to, the appropriate exhibits are listed in the Instructor Notes column.

5) Enrollee is advised that the Instructor's Lesson Plans was prepared as a guidance document for the instructor. It should not be considered a rigid document. Instructor should adhere to the content of each lesson but should feel free to utilize his own style and any training aids available to him.

d. Certain lessons can only be fully developed by the local training establishment either because they are specific to the local jurisdiction or are subject to periodic change.

1) Briefly describe these indicating that they are listed on pp. 6 and 7 of the Instructor's Lesson Plans.

2) Indicate that quiz and review lessons will vary depending on the material presented at the time each lesson is inserted in the schedule.

SUMMARY AND QUESTIONS

1. Purpose of unit of instruction--provide enrollees with a broad familiarity of the development of the BES course and course documents.

2. Class questions or comments on the unit of instruction.

Time: 1 hr.

UNIT 3

COURSE PLANNING CONSIDERATIONS

Objectives: Review the following course planning considerations:

- Class size
- Course scheduling
- Facilities
- Course instructors
- References

Go through the steps required to organize and teach a course.

Requirements:

OBJECTIVES

1. Brief explanation of objectives of the unit of instruction.

2. Indication to enrollee that he will find details for this session in the Course Guide.

CLASS SIZE

1. Class size should be small to permit maximum interaction between instructor and student.

2. It is recommended that lecture/review lessons be limited to about 20 students.

3. For laboratory sessions:

   a. Class size will be limited by number of breath equipments available.

   b. A 1:1 ratio between equipment and students is ideal but would be impractical for most jurisdictions.

c. It is recommended for this course that a ratio of 1 precision breath equipment for each 2 students not be exceeded.

d. For course planning purposes, it was assumed that 5 equipments would be available; the course as planned therefore assumes that there will be no more than 10 students in the laboratory at one time.

e. If the equipment-student ratio is not met, laboratory time will need to be extended or a relay system used.

4. For the mock court:

a. The lesson as planned assumes a maximum of 10 students.

b. If there are more than 10 students, additional time will be required for practice or a relay system will need to be used.

COURSE SCHEDULING

1. Course has been designed in modular form so that it can be put together to meet the needs of the local training establishment.

2. The course may be given one or more times per week in lessons lasting from 1 to 4 hours or may be combined into a 6 to 8 hour day and given in a time frame of 6 or more days.

(Illustrate Sample Schedules 1 and 2)

3. Sample schedules--describe rationale for organization.

a. Sample schedule 1--10 students, 5 equipments.

1) Equipment lessons:

a) Start with introduction to basic theory and operation.

b) Proceed to analyzing samples of known alcoholic concentration, details of equipment design, factors affecting operation, and practice in analyzing samples of unknown concentration.

c) Conclude with taking and analyzing samples from drinking subjects.

d) Rationale:

(1) Equipment theory and operation--Part I plus some practice with the equipment will better equip the trainee to assimilate the details given in Equipment theory and operation--Part II.

(2) Some equipment practice is provided on each day of training.

2) Background lessons:

a) Give subject matter of a general nature first, e.g., overview of course, background of chemical testing, etc.

b) Proceed to information specific to the trainee's job requirements, e.g., statutes, processing procedures, courtroom evidence.

3) Final review of examinations--although not specifically developed as a separate lesson, it is strongly recommended that the training establishment include time for detailed review of final examinations.

b. Sample schedule 2--20 students, 5 equipments.

1) Generally the same procedures and rationale as above except the class has been broken up into groups and a relay system has been employed.

FACILITIES

1. Both a lecture room and laboratory are required--conceivably they could be the same area if a relay system is not required; in addition, a separate room for the drinking subjects would be preferable.

2. The lecture area should have:

a. Sufficient space for seating the expected number of students.
b. A lecture area with lectern for the instructor.
c. Space for a chalkboard and any other training aids to be utilized.

3. The laboratory area should have:

a. Sufficient space for individual student practice with the equipment.

b. An adequate number of electrical outlets and work surfaces for the equipment.

INSTRUCTORS

1. The entire course could be taught by a single instructor who could also serve as course administrator.

2. When possible, it is recommended that specialists be used for certain subject areas:

   a. Lessons on alcohol and chemical testing background might be taught by an individual with a chemical-biological background, such as the state toxicologist.

   b. Lessons on statutes and court testimony might be taught by a person with a legal background, such as a prosecuting attorney.

3. For laboratory sessions, it is desirable to have 1 instructor for each 2 or 3 equipments in order that each student will have reasonably close supervision of his work with the equipment.

4. A relay system will increase the teaching burden and may require the use of additional instructors.

ASSEMBLING THE STUDENT STUDY GUIDE

1. The Student Study Guide is of necessity incomplete since the detailed content of much of the course will be specific to the local training establishment, e.g., suspect processing procedure, statutes and regulations.

2. It therefore includes specifically prepared materials plus material that must be prepared and inserted at the local level.

3. Go through insert sheets 1, 2, and 3 in detail with the enrollees explaining what is in the Guide and what must be assembled locally.

OTHER REFERENCES

1. Many other references have been used in the development of individual lesson units; the specific need of any individual instructor to obtain and review these documents will depend on his own background and knowledge in the subject area.

2. It is recommended that the references listed in the appendices of these training documents be in the library of any training establishment with responsibility for breath testing. In addition to the breath equipment manual, the following references are considered particularly useful:

   a. AMA. Manual on the medicolegal aspects of chemical tests for intoxication.

   b. Donigan. Chemical tests and the law.

   c. Erwin. Defense of drunk driving cases (plus cumulative yearly supplement).

MATERIALS AND EQUIPMENT

1. The instructor should assure that sufficient quantities of the following materials and equipment are available:

   a. Breath testing equipment and supplies.

   b. Reserve of pure alcohol, pipettes and other equipment for preparing various solutions for student testing.

   c. Any projection equipment, screens, slides, and other visual aids the instructor plans to use.

   d. Liquor of various types for the drinking sessions.

   e. Laboratory data recording forms (see Instructor's Lesson Plans, Appendix D).

SUMMARY AND QUESTIONS

1. Contents of unit of instruction--considerations for course planning.
2. Class questions or comments on the unit of instruction.

Time: 1 hr.

UNIT 4

TEACHING-LEARNING PROCESS

Objectives: Identify the four major phases involved in the preplanning and execution of the teaching-learning act and key points pertinent to each phase.

Explain how the four-step process was applied to the Instructor's Lesson Plans

Requirements:

OBJECTIVES

1. Brief explanation of objectives of the unit of instruction.

2. Explanation that this is general introduction to the teaching-learning process; specifics will come later.

SITUATIONAL EXAMPLE

1. Establishment of situation as follows: You have been informed that a new class of BES trainees has been formed. Ten people are enrolled in the class. You have been asked to be the instructor responsible for presenting the first morning of training. The topics are: Course Overview, DWI Problem and Related Countermeasures, Basics of Chemical Testing and Units of Measurement. The class will meet two weeks from today.

2. Questions directed to group:

   a. What should be considered in getting ready for your presentations?

   b. What advance planning would you do?

3. Several ideas should evolve from group--use enrollee ideas to lead into lesson.

NEED FOR PREPLANNING OF INSTRUCTION

1. Every instructor needs to perform some planning before presenting lessons. The amount of planning and preparation necessary is dependent on the experience and background of the instructor.

   a. Two things will cause the best of instructors to fail:

      1) Not knowing his subject

      2) Failure to prepare properly for his teaching assignment

   b. Sufficient time should be devoted to preparation, even if the instructor is an expert on the subject.

   c. Instructor needs a "guide" or "map" -- a lesson plan.

   d. For the BES course, lesson plans have been prepared as guidelines for the instructor; however, preplanning of each lesson is still required, and some lessons need to be planned in detail (e.g., suspect processing procedures).

PHASES IN THE TEACHING-LEARNING PROCESS

1. The process of getting ready for and implementing the teaching-learning process may be examined in the context of four distinct phases:

   a. Preparation Phase - Getting the learner, the learning environment, and the teacher into a state of readiness.

   b. Presentation Phase - The teaching-learning process in action.

   c. Application Phase - Providing appropriate opportunities for the student to practice and apply this new learning.

   d. Evaluation Phase - A process for examining the degree of success of the teaching-learning experience -- basis for decisions.

2. Definition of teaching and learning:

   a. Teaching - the management of the learning environment

   b. Learning - modifications or changes in human behavior

PREPARATION PHASE

1. During this phase, the instructor must make a series of decisions or review previous decisions:

   a. Instructor readiness considerations:

      1) What are the stated objectives of the lesson?
      2) What subject matter content is included?
      3) How much review of content is needed by instructor?
      4) Is available time a limitation?
      5) How will achievement of the objectives be determined? Do tests need to be developed?

   b. Learning environment considerations:

      1) What teaching methods would be most effective?
      2) Can a variety of methods be used?
      3) What teaching aids should be used for this lesson? Where can they be obtained?
      4) Will a film need to be obtained? (Source, use date, film preview)
      5) What supplies, equipment, or materials are needed for demonstration?
      6) How will the students practice new skills or apply new knowledge?
      7) Is the classroom adequate? Is the laboratory adequate? (Lighting, seating, ventilation, heating)
      8) How will the workplace be arranged?

   c. Student readiness considerations:

      1) How should the lesson be introduced to the class?

      2) Will the introduction help the student realize the importance of the knowledge and skills taught in the lesson?

2. The preparation phase, therefore, involves many factors and is most important to insure success of the instruction. The instructor must provide adequate time for this pre-planning phase.

PRESENTATION PHASE

1. During this phase, the instructor is in action with the student group. The instructor implements the selected methods of teaching:

   a. Shows how to do it (demonstrate)

   b. Explains how, as he demonstrates

   c. Asks questions frequently

   d. Involves the student in demonstrations or discussions

   e. Holds lecture to a minimum--discusses with students instead

   f. Uses visuals whenever appropriate

   g. Shows the object if possible; doesn't just talk about it

   h. Makes sure all can see visuals, demonstrations, chalkboard

   i. Maintains a classroom climate that is open--does not inhibit relevant communication

   j. Uses language suitable to the group--does not talk over their heads

   k. Makes eye contact with every student repeatedly

   l. Utilizes as many senses as possible in presenting--especially seeing

   m. Stands while presenting, moves about, and gestures--is dynamic and interested in the subject

   n. Has a sense of humor--interjects humor in presentation if appropriate

APPLICATION PHASE

1. The student must be given an opportunity to try out whatever has been demonstrated or explained to him. Laboratory sessions are provided for the student to practice skill with the equipment.

   a. Provide practice as soon as possible after new learnings have been presented.

   b. Observe the learners performing the tryout experiences.

   c. Provide assistance and correction if necessary so that the first attempt is done properly.

   d. Have students repeat task several times to increase proficiency.

2. Practice or application is also provided by:

   a. Classroom practice of skills, as in the mock court and practice with suspect processing forms.

   b. Classroom practice of knowledge through verbal drills and quiz and review sessions.

EVALUATION

1. The process of evaluation involves examining the total teaching-learning activity. It is <u>not</u> only testing of the student for achievement, although this is part of it.

2. Evaluating student achievement

   a. Should be based on objectives of the instruction

   b. Achievement of skills will need to be measured differently from knowledge or attitudes

   c. Attitudes are difficult to measure

   d. Devices can be constructed to assist instructor in measuring changes in these three areas of human behavior.

3. Evaluating the learning environment

   a. Did the selected methods work well?

   b. Was the student practice and application appropriate and adequate?

   c. Was enough time provided for instruction and practice?

   d. Were visual aids adequate?

   e. Are additional aids needed?

   f. Was the class too large for efficient and effective instruction?

   g. Were the classroom facilities adequate?

   h. Did you have adequate supplies, materials, tools, equipment for demonstration and practice?

   i. Did all equipment work properly?

   j. Were the lesson plans helpful?
   How could they be improved?

4. Evaluating the instructor

   a. Is additional review needed for some of the lessons?

   b. Did the students frequently get bored?

   c. How can some topics be made more interesting?

   d. Can the lesson sequence be changed to increase student interest?

   e. Was "open" discussion possible?

   f. Was the class too instructor dominated?

   g. Can some presentation methods be improved?

APPLICATION OF THE FOUR-STEP PROCESS TO THE INSTRUCTOR'S LESSON PLANS

(Display Sample Schedule 1 or refer to actual lesson plan)

1. Preparation

   a. The first lesson "sets the scene" for the course by describing course objectives and scope and the roles and responsibilities of the BES.

   b. The objectives of each lesson are fully discussed prior to presenting new knowledge and skills.

   c. When necessary, the reason for including the information is explained to the trainee.

2. Presentation

   a. Each lesson in which new knowledge or skills are taught utilizes a variety of techniques; that is:

      1) Lecture
      2) Discussion
      3) Demonstration
      4) Use of training aids

3. Application

   a. Application of equipment operating skills is attained through laboratory sessions.

   b. For other skills and knowledge.

      1) The student is given practical exercises in class through verbal drills or problem solving sessions.

      2) Four quiz and review sessions plus a final review session are included to provide the student with additional opportunity to apply knowledge.

      3) The lesson on Preparation and Presentation of Courtroom Evidence provides for integration and application of certain course knowledge while the student performs as a witness in the mock court.

4. Evaluation

   a. Four quiz and review lessons provide for interim evaluation of student knowledge.

   b. Students are evaluated informally during all class periods including laboratory sessions.

   c. There is a final written test of knowledge.

   d. There is a final practical evaluation of skills.

SUMMARY AND QUESTIONS

1. Contents of session: the four major phases of preplanning and execution of instruction, key points pertinent to each phase, and application of the four-step process to the Instructor's Lesson Plans.

2. Class questions or comments on this unit of instruction.

Time: 1 hr.

UNIT 5

UTILIZING THE LECTURE/DISCUSSION TECHNIQUE

Objectives: To provide the enrollee with hints for effectively utilizing lecture/discussion techniques in developing student knowledge.

Requirements:

OBJECTIVES

1. Communication of knowledge may be achieved by several means; for example:

   a. Lecture
   b. Class discussion
   c. Use of instructional aids

2. In general, it is a good principle of teaching to utilize instructional aids when they will add to the effectiveness of the presentation.

3. However, there are instances where instructional aids are limited, completely unavailable, or inappropriate, and the instructor must rely on his personal qualities as a teacher in effectively communicating with the class.

4. It is, therefore, the purpose of this unit of instruction to provide the instructor with hints for utilizing lecture/discussion techniques in communicating with a class, that is, the instructor must rely primarily on his own qualities as a teacher rather than on visual aids.

INSTRUCTOR QUALITIES

1. Qualities of a good instructor go far beyond expert knowledge of the subject matter.

   a. He must impart this knowledge in a clear and interesting manner.

b. He must control his students and at the same time maintain a good rapport with them.

c. He must, in effect, communicate with the class.

2. Suggestions for the instructor include:

a. Use language suitable to the group. Avoid complicated words where simple words will do.

b. Be so well versed in the subject matter and familiar with the lesson plan that you are able to talk directly to the class, not read to it.

c. Do not orate or mumble. Employ interesting, earnest, conversational tones and natural personal manner. Look into the faces of your students as if you were talking to them individually. Look from one to the other and not too much at your notes and desk.

d. Exhibit a sense of humor in some other way than by using funny stories as illustrations. Phrase your remarks, where possible, in an interesting manner.

e. Be in control of the class at all times. Assure that all students participate, and do not allow the class to be dominated by a few vocal students.

f. Ask questions frequently and involve students in discussions.

OBTAINING CLASS PARTICIPATION

1. The course is designed to include as much class participation as possible. The instructor should:

a. Ask members of the class to answer specific questions.

b. Encourage students to ask questions or make comments.

c. Stimulate discussion by posing situational examples or opening up a student question to the entire class.

2. When asking the class a question, the instructor should direct the question to the entire class, and then either select an individual to respond or permit a student who knows the answer to respond.

   a. When questions are directed to the entire class, all individuals in the class are required to think the answer through.

   b. If the instructor selects an individual to respond, he is advised that shy students may become discouraged.

   c. On the other hand, should the instructor permit any member of the class to respond, he may find that one or two individuals dominate the class.

   d. The instructor should try both techniques and select the one that works best with his particular class.

3. The instructor should vary his questions. Examples of kinds of oral questions include those starting with the words "what," "why," "how," "is it true that," and "compare."

4. Hints for aiding the shy student and for controlling the overly vocal student.

HINTS FOR CONDUCTING INFORMATION LESSONS

1. Suggested procedures for imparting knowledge in information lessons include:

   a. State clearly at the beginning the major topic and objective of the lesson.

   b. Begin, if possible by:

      1) Arousing some curiosity or developing a problematic attitude by means of question or problem.

      2) Giving the students some ideas of the main things to be gained from the lesson.

c. Quickly survey the room for possible distraction, noises, and bad seating arrangements, and make appropriate adjustments, if possible.

d. Adapt the pace of lecture method of lesson presentation to:

1) The ability of the class to follow the lecture

2) The relative necessity for the student's reflecting upon what has been presented

3) The difficulty of the materials presented and the ability of the class to take notes, if notes should be taken.

e. Cultivate a good time-sense. Avoid digression; it often serves as a distraction rather than an illustration. Keep your lesson on schedule.

f. Above all, always keep in mind these important points:

1) The objective of the lesson

2) The necessity for your students to be able to understand, and,

3) The necessity to be interesting, to be at ease, to be brief, to employ the proper pace, and to promote class participation.

SUMMARY AND QUESTIONS

1. Summary of main points brought out in lesson.

2. Class questions or comments on the unit of instruction.

Time: 1 hr.

UNIT 6

WORKSHOP PLANNING

Objectives: Inform enrollees of the procedures and assignments for the practice teaching workshops.

Requirements: Handouts--Workshop Assignments, Checklists, and Preparing and Presenting Workshop Assignments

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OBJECTIVES

1. Brief explanation of the objectives of the unit of instruction.

PURPOSE OF WORKSHOPS

1. Provide enrollees an opportunity to apply principles previously taught by actually presenting part of one of the lesson plans.

2. Provide instructor trainer and other enrollees an opportunity to observe the principles being applied and to suggest way and means to improve the presentation.

3. Provide instructor trainers and practice teachers with a means for assessing progress.

4. Purpose is not to embarrass anyone or put them "on the spot" but rather to better prepare each enrollee for his teaching task and to benefit from the experiences which each enrollee brings to bear.

GENERAL PROCEDURES

1. Practice teaching workshops will be conducted part of each morning and afternoon on Tuesday, Wednesday and Thursday.

2. Approximately 15 to 20 minute segments have been selected from the lesson plans to permit practice in teaching background subjects, equipment design and equipment operation.

3. Each enrollee will select from the list the presentation he would like to make.

4. Prior to the presentation, he will review the lesson plan segment selected and prepare for the presentation.

5. After each presentation, there will be a 15-minute discussion period during which the instructor and enrollees will suggest ways and means that the presentation might be improved. Enrollees acting as students will be provided with a checklist of aspects of the presentation to consider.

(Hand out assignment sheet)

WORKSHOP ASSIGNMENTS

1. As indicated previously, workshop assignments were selected to provide practice in teaching background subjects, equipment design and equipment operation.

2. In giving his lesson, the enrollee should make use of any appropriate teaching technique thus far taught in the Institute.

3. There will be two practice teaching sessions in the morning and three in the afternoon (or other as appropriate).

4. Enrollees should select from the possible areas on the assignment sheet, the <u>one</u> which they would prefer to present.

<u>Note:</u> Instructor should refer to workshop assignment sheet and poll class regarding the assignment each member prefers. Identify each assignment and ask who would like to make the presentation. Select an individual and write his name next to the area. Continue this process until each enrollee has been assigned to one of the instructional areas. Review assignments to ensure everyone has an assignment and understands what it is. Each enrollee must make a different selection. Two enrollees may not take the same assignment.

PREPARATION AND PRESENTATION

(Hand out Preparing and Presenting Workshop Assignments)

1. Refer students to their assignments in the lesson plans. Emphasize it is not the entire lesson but rather a segment of the lesson requiring approximately 15 to 20 minutes of presentation.

2. Prior to the presentation, the enrollee should review the appropriate segment of the lesson plan and Study Guide. Material should be presented essentially as suggested in the lesson plans. And in accordance with the principles presented in a prior lecture--modified, of course, by the enrollee's own style of presentation.

3. Since each practice teaching session is only a segment of a lesson, each enrollee should preface his presentation with a brief description of the objectives to be achieved and close with a summary.

4. In preparing for the presentation, the enrollee should insert marginal notes in the lesson where appropriate, underline points he wishes to emphasize and determine how he wishes to supplement his presentation with visual aids.

5. Regarding visual aids, use should be made of the chalkboard, any aids available at the Institute, or any aids the enrollee wishes to prepare for himself. The instructor should distribute visual aids available at the Institute to enrollees.

   Note: Instructor should select a segment of a lesson plan and review briefly with the class what is involved in preparing to present that segment.

6. Emphasize that the purpose of the workshops is not to practice or evaluate BES knowledge or skills but rather instructional skills.

DISCUSSION

1. Each presentation will be followed by a 15-minute discussion during which the instructors and enrollees will suggest, as appropriate, ways and means for improving the presentation.

(Hand out checklists)

2. Checklists have been developed for the enrollees, identifying the areas which should be considered for discussion.

SUMMARY AND QUESTIONS

1. Objectives and procedures for practice teaching workshops.

2. Class comments or questions on the unit of instruction.

Time: 1 hr.

UNIT 7

PRACTICE TEACHING WORKSHOP
(2 enrollees)

Objectives: Provide enrollees with an opportunity to teach segments of the lesson plans.

Requirements: Evaluation forms

OBJECTIVES

1. Brief explanation of objectives of the workshop

PROCEDURES

1. Each enrollee with a practice teaching assignment will devote approximately 15 minutes to practice teaching.

2. Other enrollees will serve as "students" during the practice teaching session.

3. Each practice teaching session will be followed by a 15-minute critique in which instructor and enrollees evaluate the presentation and suggest means for improving it, as appropriate.

Time: 1-1/2 hrs.

UNIT 8

INSTRUCTIONAL AIDS

Objectives: Discuss purpose and uses of instructional aids.

Discuss advantages, disadvantages and hints for effectively utilizing:

- Chalkboards and chart pads
- Prepared slides
- Slides and film strips
- Overhead transparencies
- Films

Requirements: Film: "Visual Aids" (Modern Training Aids, Rochester, New York)

OBJECTIVES

1. Brief explanation of objectives of the unit of instruction.

PURPOSE AND USES OF INSTRUCTIONAL AIDS

1. Instructional aids permit the instructor to appeal to both the senses of vision and hearing.

2. The combination of seeing and hearing yields more effective instruction than just hearing alone.

3. In addition to providing a means of varying presentation of subject matter, visual aids can be used to:

   a. Underscore main points--for example, using the chalkboard or a prepared flip chart to display the common symptoms of alcoholic influence.

   b. Assist in instruction of information that is difficult to describe in words--for example, use of a schematic to show major equipment assemblies.

4. The only visual aids prepared for this course are included in the Student Study Guide. However, each individual instructor should feel free to utilize any aids available to him which will be helpful in his presentation.

   a. If a visual aid is relevant to the material and serves a purpose, use it.

   b. If a visual aid is irrelevant and unnecessary, it will serve to divert the student's attention.

5. The instructor is advised that the visual aid is designed to aid the instructor not to substitute for him.

6. Visual aids should be developed around the verbal presentation; the verbal presentation should not be designed around the visual aid as is so often the case.

(Introduce and show film)

FILM ("Visual Aids")

1. Introduce, show and critique film.

GENERAL PRINCIPLES FOR USING INSTRUCTIONAL AIDS

1. All training aids to be used in the lesson should be available and ready for use before the class starts.

2. The instructor should be thoroughly familiar with the contents of all visual aids used in his presentation.

3. The instructor should know how to operate all projection equipment or should assure that there is a capable person to operate it.

4. He should assure that extra bulbs are available for projection equipment.

5. He should assure that any training aids used are visible to all members of the class.

6. When emphasizing certain points, he should talk to the class and not to the training aid.

CHALKBOARDS AND CHART PADS

1. Chalkboards and chart pads are discussed together since their uses are similar.

2. The chalkboard is probably the best known visual aid:

   a. It is inexpensive and versatile.

   b. It permits spontaneity in presentation.

   c. If a topic is being developed with the class, items can be listed and progress recorded--for example, in developing a list of properties of ethyl alcohol.

   d. Since erasing is simple, changes can be made easily.

   e. Once material is erased, it is gone; thus, sufficient time must be provided for students to copy the material if the instructor wishes it copied.

3. The chart pad usually consists of an easel to which a large pad (34" x 23") of paper can be attached. A felt tipped marker or grease pencil is best for writing on a chart pad.

   a. The chart pad is used in the same manner as the chalkboard.

   b. Since material need not be erased, pages can be turned over thus making review possible by turning back pages.

   c. Pages can be torn off and displayed in the classroom if desired.

   d. Pages can be prepared in advance--for example, a prepared list of the roles and responsibilities of the BES.

e. Their use in development of ideas with the class may prove difficult since it is impossible to erase and crossing out usually proves messy and distracting.

4. General hints for using chalkboards and charts pads are:

   a. Do not write and talk at the same time. If you do, you will be talking to the visual aid and not to the class.

   b. Write legibly and large enough for all to see-print if possible.

   c. Write quickly so that you can give your attention to the class.

   d. Try not to block anyone's view as you write.

   e. When referring to items on the board or chart, use a pointer, not your arm.

   f. Avoid blocking the view of the board with your body.

   g. In general, remove the material when you have finished so that it will not be distracting.

PREPARED CHARTS

1. A chart is any poster or pre-prepared graphic device, such as a pre-prepared flip chart as discussed above.

2. Charts are permanent and portable and can be made of almost anything--photographs, drawings, graphs, diagrams.

3. In the BES course, large charts could be useful for explaining the design of equipment.

4. Another example is the summary display of key points, such as the checklist of equipment operating procedures.

5. Except for the fact that one does not normally write on charts, hints for effectively using charts are the same as those for using chalkboards and chart pads.

SLIDES AND FILMSTRIPS

1. Slides and filmstrip projectors project transparent pictures onto a screen. Slides are individual pictures; filmstrips are a series of pictures. Most slide projectors have remote control devices which permit slide changes as the instructor talks.

2. Charts, diagrams, pictures of all types and even on-the-scene photographs can be made into slides.

3. The instructor is advised against developing a "complete" slide series for his presentation. Slide presentations require a great deal of preparation and rehearsal. In addition, they minimize the opportunity for interaction between instructor and student.

4. When using slides:

   a. Darken the room slightly so that they can be easily seen.

   b. Use a pointer (not your hand) if you wish to refer to an image on the screen.

   c. For each slide, emphasize the area or points which you wish the student to attend to.

   d. Leave your slides on long enough for the group to study them (3-5 slides per minute). Too rapid succession of slides can be ineffective.

   e. Once you are finished with the slide, turn off the projector--the slide or projector light can be very distracting.

OVERHEAD TRANSPARENCIES

1. Although technically they are "slides," overhead transparencies are discussed separately here since they have several unique features.

2. Overhead transparencies are large slides for use with an overhead projector placed in the <u>front</u> of a lighted room.

a. The image is reflected on a screen above and behind the instructor.

b. Placement of the projector allows the instructor to see the transparency and continue to face the class.

c. If the instructor wishes to point to an area of the slide, he can do so by pointing directly to the area on the transparency; he does not have to turn around.

d. The instructor can write on the transparency, using color if desired. A felt pen or special pencil can be used to add details or mark points on the transparency during projection.

e. A series of overlays can be used to "build up" or "take apart" an image.

f. The rate of presentation of information can be controlled by covering the transparency with paper or cardboard, and exposing it when desired.

3. Uses of transparencies in the BES course would be similar to uses of posters and prepared charts; they cannot be used to show photographs.

4. As with other slides:

a. Emphasize the area or points which you wish the student to attend to.

b. Leave your slide on long enough for the group to study it.

c. Once you have finished with the slide, remove or cover it to avoid distractions due to the slide or the light.

FILMS

1. Although no specific films have been recommended for the BES course, the instructor should be alert to new films in the field and should feel free to utilize any films available to him if he feels they will improve the effectiveness of his presentation. However, he is advised to select the film carefully in order to be certain it portrays what he wants.

2. Each film should be carefully previewed prior to use. The instructor should be certain of its contents.

3. When showing films:

   a. Introduce the film beforehand, explain what the film covers and is intended to show, let students know the specific points they should watch for.

   b. Show the film.

   c. After the film is over, discuss it in light of your objectives. Know the points you want to stress. Prepared questions help in starting the discussion. The discussion should provide the class with a better understanding of the points made in the film.

4. A general caution when using films: be sure that:

   a. The equipment is in working order before the class convenes.

   b. The projector is threaded.

   c. The screen is in place.

   d. The focus is adjusted.

   e. The sound is synchronized and adjusted.

SUMMARY AND QUESTIONS

1. Contents of session--hints for selecting and using instructional aids:

   a. Be completely familiar with the aids, equipment and their use.

   b. Be certain you can operate or use the aid correctly and without problems; practice using it until you are confident and at ease.

   c. Use only a few pertinent aids; too many aids will be ineffective.

   d. Arrange aids so that everyone can see and/or hear; get to the class in sufficient time to set up your aids.

   e. Be certain the aid is functioning correctly.

   f. Don't let the aid dominate or interfere with your presentation.

   g. When possible, use a variety of aids; adults respond to a variety of teaching methods.

   h. Show and use the aid at the proper time.

   i. Remove or turn off the aid after you have finished with it.

   j. Speak to the class, not the aid.

   Properly used communication aids will add to a presentation. Incorrectly used, they will be distracting.

2. Class questions or comments on the unit of instruction.

Time: 1-1/2 hrs.

UNIT 9

PRACTICE TEACHING WORKSHOP

(3 enrollees)

Objectives: Provide enrollees with an opportunity to teach segments of the lesson plans.

Requirements. Evaluation forms

OBJECTIVES

1. Brief explanation of objectives of the workshop

PROCEDURES

1. Each enrollee with a practice teaching assignment will devote approximately 15 minutes to practice teaching.

2. Other enrollees will serve as "students" during the practice teaching session.

3. Each practice teaching session will be followed by a 15-minute critique in which instructor and enrollees evaluate the presentation and suggest means for improving it, as appropriate.

Time: 1 hr.

UNIT 10

DEVELOPING EQUIPMENT OPERATING SKILLS

Objectives: Teach enrollees the basics of good practices in developing equipment operating skills.

Requirements:

OBJECTIVES

1. Brief explanation of objectives of the unit of instruction.

PLAN FOR SKILL DEVELOPMENT

1. The enrollee is reminded that the lesson plans for the BES course were limited to five precision breath equipments that met certain criteria at the time the equipment list for the curriculum of necessity had to be frozen (September , 1970).

2. Despite the fact that the lesson plans were developed for only five precision breath equipments, the enrollee is advised that a definite logic and plan for skill development has been utilized in the BES course.

3. The entire field of breath testing is rapidly changing--existing models of equipment are being improved and new equipments involving completely new concepts are being developed.

4. It is believed that the plan for skill development as utilized in the BES course is applicable to new models of existing equipment as well as to completely new equipment.

5. The sequence of skill development utilized in the BES course is as follows:

   a. Equipment Theory and Operation, Part I

      1) It is an initial lecture-discussion-demonstration lesson which provides the enrollee with an orientation to design and operation of the equipment. It includes:

a) Major equipment design features and operating principles.

b) Names and functions of various controls and displays.

c) Requirements and procedures for running a test.

d) Equipment and procedures for checking on the accuracy of the equipment.

e) Suspect observation requirements prior to running a test and operational checklists to be followed in conducting a test.

2) It is considered to provide the basic information required by the student to operate the equipment satisfactorily

b. Laboratory--Testing Known Samples

1) This lesson permits the enrollee to practice making tests with samples whose alcoholic concentrations are known to him--he therefore has immediate feedback on the accuracy of his technique.

2) It is recommended that very close supervision be given the student in this laboratory session since it is his first exposure to equipment operation and detailed precautionary procedures have not been presented.

3) It is considered that providing the student with an opportunity to practice at this point with the actual equipment will better prepare him to assimilate the materials presented in Part II of Equipment Theory and Operation.

c. Equipment Theory and Operation, Part II

1) This is a lecture-discussion-demonstration lesson which provides the student with details of equipment design and operation. As such, it includes:

a) Overview of technical facts on equipment components.

b) Precautions regarding operation of the equipment.

c) Some possible malfunctions and recommended actions--as stated previously, these are minor malfunctions; major maintenance is not included in this course and may or may not be part of the BES's job depending on jurisdictional option.

d) Factors affecting accuracy of the equipment.

e) Accuracy of the equipment compared to blood tests and other breath equipments.

f) Demonstration testing of other substances (smoke, garlic, onions, acetone, etc.) that do/do not react with the equipment.

2) This lesson is included since it is not considered sufficient to teach enrollees just rote equipment procedures without concomitantly giving them an understanding of why they are doing what they have to do.

3) It is also considered that fundamental background material will aid the BES in being a truly competent witness in court.

d. Laboratory--Testing unknown Samples

1) This lesson permits the enrollee to practice making tests on samples that are unknown to him (but known, of course, to the instructor).

2) It thus provides a challenge to the student to perform accurately and an interim evaluation device for the instructor to judge student progress.

e. Laboratory--Testing Drinking Subjects

1) This lesson provides the student with an opportunity for testing in a nearly realistic setting, that is, he is testing actual drinking subjects.

2) The lesson is designed to provide the student with an immediate appreciation of the following:

a) The spuriously high readings that can be obtained when the 20-minute wait prior to testing is not observed.

b) The shape of the BAC curve and how this varies among people.

c) Observations of alcoholic influence (appearance and performance) at various BAC's.

d) Sensations experienced at various measured BAC's (when performing as the drinking subject).

6. The preceding sequence has shown a plan of:

a. Progressing from simple to complex in background of the equipment.

b. Progressing from known to unknown to drinking subjects in operating the equipment.

HOW TO DEMONSTRATE SKILLS

1. Elements of a good demonstration include:

a. Be prepared

1) Have all equipment and supplies ready
2) Know each step you want to explain and emphasize

b. Explain each step or process as you proceed.
c. Emphasize key points and precautions.

2. The course design includes the following means of demonstrating skills:

a. The lead instructor gives the demonstration first to the entire group in the lesson on Equipment Theory and Operation, Part I.

b. If there is time in this lesson for practice or "try-out" by one or more students, it is recommended that this be included.

c. In laboratory lessons, it is recommended that students work in pairs. The instructor(s) in laboratory sessions should redemonstrate equipment operation as necessary as well as observe and critique performance as appropriate.

COMPLIMENTING AND CORRECTING THE LEARNER

1. Hints for complimenting and correcting the learner

   a. Avoid criticism, if possible; attempt to show how it could be done better.

   b. Compliment before you correct.

   c. Let the student correct himself if possible.

   d. Encourage the student to improve.

   e. Be prompt with compliments and corrections--make them during or immediately following the performance of the skill.

DEMONSTRATION OF PRINCIPLES OF THIS UNIT OF INSTRUCTION BY TEACHER TRAINER

1. Include the following:

   a. Brief explanation of what he will teach and why.
   b. Demonstration of the skill.
   c. Practice of the skill by the enrollees.
   d. Complimenting and correcting as necessary.

CRITIQUE

1. Enrollee and instructor critique of the demonstration.

SUMMARY AND QUESTIONS

1. Summary of main points brought out in lesson.

2. Class questions or comments on the unit of instruction.

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Time: 1 hr.

UNIT 11

PRACTICE TEACHING WORKSHOP

(2 enrollees)

Objectives: Provide enrollees with an opportunity to teach segments of the lesson plans.

Requirements: Evaluation forms

OBJECTIVES

1. Brief explanation of objectives of the workshop

PROCEDURES

1. Each enrollee with a practice teaching assignment will devote approximately 15 minutes to practice teaching.

2. Other enrollees will serve as "students" during the practice teaching session.

3. Each practice teaching session will be followed by a 15-minute critique in which instructor and enrollees evaluate the presentation and suggest means for improving it, as appropriate.

Time: 1-1/2 hrs.

UNIT 12

WORKSHOP: DEVELOPING INSTRUCTIONAL AIDS

Objectives: Provide each enrollee with the opportunity to develop a variety of instructional aids.

OBJECTIVES

1. Brief explanation of objectives of unit of instruction.

2. Emphasis of the point that the conception of good instructional aids requires creative thought, definitive thinking, and clarity of purpose.

3. Fundamental skills involved in constructing selected instructional aids.

VISUAL AID DESIGN AND CONSTRUCTION

1. Each individual enrollee will design and construct various types of teaching aids to supplement information presented in the BES training course.

2. Enrollees are not expected to develop a complete visual package for a lesson; rather they should develop sample visuals pertinent to a lesson.

3. The instructional aids could include the following types:

   a. Tack board
   b. Flannel board
   c. Chalkboard
   d. Magnetic board
   e. Overhead projectual
   f. Picture file

4. All enrollees should discuss and evaluate the visual aids prepared by each person according to the principles presented in the earlier unit of instruction on Developing Instructional Aids.

Time: 1-1/2 hrs.

UNIT 13

PRACTICE TEACHING WORKSHOP

(3 enrollees)

Objectives: Provide enrollees with an opportunity to teach segments of the lesson plans.

Requirements: Evaluation forms

OBJECTIVES

1. Brief explanation of objectives of the workshop

PROCEDURES

1. Each enrollee with a practice teaching assignment will devote approximately 15 minutes to practice teaching.

2. Other enrollees will serve as "students" during the practice teaching session.

3. Each practice teaching session will be followed by a 15-minute critique in which instructor and enrollees evaluate the presentation and suggest means for improving it, as appropriate.

Time: 1 hr.

UNIT 14

CONDUCTING LABORATORY SESSIONS

Objectives: Review with enrollees procedures to follow in conducting laboratory sessions.

Provide enrollees with the opportunity to share experiences of others relative to conducting laboratory sessions.

Requirements:

OBJECTIVES

1. Brief explanation of objectives of the unit of instruction.

BACKGROUND

1. In the BES course, 14 hours are devoted to laboratory work with the precision breath equipment:

   a. Two hours testing known solutions
   b. Four hours testing unknown solutions
   c. Eight hours testing drinking subjects

   In addition, the course provides for a final practical examination with the equipment.

2. Laboratory sessions provide an opportunity for the student to attain precision with the breath device and provide the instructor with an interim evaluation of student performance.

3. The student should be evaluated not only on his ability to operate the equipment correctly but also on his adherence to laboratory rules and procedures.

GENERAL LABORATORY RULES AND PROCEDURES

1. Ask different members of the class to suggest general rules and procedures that would be applicable to all laboratory sessions. For example:

a. Proper personal conduct, that is, no clowning around.

b. Rules regarding smoking/no smoking.

c. Proper care of equipment and supplies.

d. Safety precautions and procedures--not only with regard to the equipment but also with regard to the responsibility of the equipment operator to monitor closely the conduct of his drinking subject.

e. Recording data--review importance of having each trainee record results of all tests made with the precision breath device.

f. Other, as appropriate--use class suggestions to compile a list of general laboratory rules and procedures.

Note: For the following, describe procedures as recommended in the BES curriculum package; then solicit from the class comments regarding how similar laboratories have been conducted in courses with which the enrollees are familiar. Have class discuss advantages and disadvantages of various laboratory techniques and procedures.

PROCEDURES FOR TESTING KNOWN SOLUTIONS

1. It is recommended that at least two solutions be used for testing--concentrations specified are 0.10% and 0.15%. Other concentrations could be used; for example, smaller values might be used if there were a requirement to conserve ampoule usage.

2. Each trainee should make at least five tests on each solution.

3. Results are recorded to three decimal places--review with the class the recording form given on page D-2 in the appendix to the Instructor's Lesson Plans.

4. Ask enrollees to indicate the accuracy they would expect a trainee to achieve on his first test, that is $\pm$ .01% or some other value.

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5. Discuss with the class possible causes for a trainee's consistently recording results greater than $\pm$ .01%. For example:

   a. Equipment may not have been properly calibrated or be experiencing a malfunction.

   b. Standard solution may have been incorrectly prepared or the temperature of a temperature-controlled wet standard may be unstable or in error.

   c. Any ampoule employed may be used up or defective.

   d. Improper samples may have been obtained.

   e. Trainee may not be following proper procedure and, therefore, instructor is not providing adequate supervision of trainee performance.

   f. Etc.

PROCEDURES FOR TESTING UNKNOWN SOLUTIONS

1. It is recommended that at least five solutions be used for testing. These should vary in concentration; the only factor determining actual concentration might be a need to conserve ampoule usage.

2. Each trainee should make three tests of each unknown solution.

3. Results are recorded to three decimal places--review with the class the recording form given on page D-3 in the appendix to the Instructor's Lesson Plans.

4. After making and recording the three tests, the trainee should decide on the actual value of the solution and record it in the appropriate space on the form. This last entry is the trainee's best judgment of the concentration of the solution. For example:

   a. He might use an average of the three tests.

   b. He might have some reason to suspect that one or more of the tests was more accurate than others.

5. Instructor should grade the results obtained in terms of deviation from the actual concentration. The graded results should be discussed with the trainee.

PROCEDURES FOR TESTING DRINKING SUBJECTS

1. This laboratory should be run in two sessions--half of the trainees serve as drinking subjects in the first session and the other half serve as drinking subjects in the second session.

2. Sessions should be conducted in the afternoon or evening so that any residual effects of the alcohol will not affect a trainee's performance in other classes.

3. This laboratory should not be conducted on the next to the last day of the course since each trainee should have a "clear head" to study for the final examination.

4. The amount of food to be eaten prior to serving as a drinking subject could be specified. All might eat a standard meal, or they might be divided into two groups. In the latter case, one could eat a light meal and one could eat no meal to demonstrate the delaying effects of food on absorption.

5. Before the drinking subjects consume any beverages, it is recommended that each subject provide his partner with a "baseline" breath test to verify the absence of alcohol or any breath test contaminant.

6. Each drinking subject should be provided with a quantity of beverage sufficient to attain a BAC of about .07 to .08 in order that a BAC level of .05% will not be exceeded when the laboratory session is finished. The total amount of beverage is assigned on the basis of trainee weight.

7. The total amount of the beverage should be divided into three equal parts and given to trainees at 20-minute intervals. Trainees should be instructed to consume the beverage at regular intervals throughout each 20 minutes. Each trainee should stop if he feels he has "had enough."

8. Upon completion of his last drink, he should report immediately to his partner for breath testing--discuss with the class the importance of an immediate test to indicate the spuriously high reading obtained when the 20-minute wait before testing is not observed.

9. During the first hour following drinking, the operator should run as many tests as possible on the drinking subject; the rising portion of the curve should be completed during this period and the greatest changes in BAC's will be noted.

10. During subsequent hours of testing, tests should be conducted every 10 to 15 minutes.

11. All results obtained should be recorded and plotted--discuss forms given on pp. D-4 and D-5 in the appendix to the Instructor's Lesson Plans.

12. Discuss with the class the type of curve likely to be obtained from this procedure and how the curve might be different if different procedures are followed.

13. Performance tests (such as those on a locally adapted AIR form) may be conducted during the testing--ask enrollees to discuss any tests used on the drinking subjects and their results. Any psychomotor testing equipment available to the training establishment (e.g., depth perception, tracking, etc.) could be used on a "before" and "after" basis to demonstrate the impairment effects of alcohol.

14. All data and graphs obtained should be reviewed in class. In addition, drinking subjects should discuss how it feels at various BAC's.

15. It is recommended that no drinking subject be released until his BAC is under .05%. If he feels it necessary, the drinking subject should be escorted home.

PROCEDURES FOR FINAL PRACTICAL EXAMINATION

1. It is recommended that each trainee perform one test on at least five unknown solutions, recording the results to the third decimal place.

2. The trainee should work alone until he has completed all of the required tests.

3. Results should be accurate within a tolerance of $\pm$ .01%, and preferably $\pm$ .005%.

INSTRUCTOR PREPARATION FOR LABORATORY SESSIONS

1. Discuss with the class what the instructor should do prior to running any laboratory session. For example:

   a. Warm up and calibrate equipment.

   b. Assure that adequate equipment and supplies are available:

      1) Solutions for testing or liquor for drinking

      2) Operational checklists and test record forms as appropriate

      3) Data recording forms

SUMMARY AND QUESTIONS

1. Contents of unit of instruction.
2. Class questions or comments on the unit of instruction.

Time: 1 hr.

UNIT 15

PRACTICE TEACHING WORKSHOP

(2 enrollees)

Objectives: Provide enrollees with an opportunity to teach segments of the lesson plans.

Requirements: Evaluation forms

OBJECTIVES

1. Brief explanation of objectives of the workshop

PROCEDURES

1. Each enrollee with a practice teaching assignment will devote approximately 15 minutes to practice teaching.

2. Other enrollees will serve as "students" during the practice teaching session.

3. Each practice teaching session will be followed by a 15-minute critique in which instructor and enrollees evaluate the presentation and suggest means for improving it, as appropriate.

Time: 1-1/2 hrs

UNIT 16

DEVELOPING WRITTEN TESTS

Objectives: To teach enrollees how to develop written tests to evaluate achievement of knowledge using:

- True-false items
- Multiple-choice items
- Matching items
- Completion items
- Essay items

To provide enrollees with techniques for:

- Test construction, administration and scoring
- Interpretation of test results
- Utilization of test results

Requirements:

OBJECTIVES

1. Brief explanation of objectives of the unit of instruction.

2. Enrollees must learn to design their own written test items since there is no national standardized test for the BES course:

   a. A completed standardized test would be impossible because of jurisdictional variations in equipment, laws and processing procedures.

   b. In general, it is considered inadvisable to standardize written tests.

3. Enrollees will have an opportunity to practice test item construction in the evaluation workshop.

RELATION TO BEHAVIORAL OBJECTIVES

1. Focus of the lesson is toward evaluating behavioral changes in area of knowledge.

2. Instructional objectives are the reference points of evaluation.

a. Ask a class member to give one knowledge objective from the BES lesson plans.

b. Ask same person how he could determine achievement of that objective.

ORAL VS. WRITTEN TESTS

1. Two types of tests may be used for evaluating achievement of knowledge.

   a. Oral tests
   b. Written tests

2. Oral testing is usually not feasible unless the class size is extremely small (1-5 people).

   a. Oral tests are very time consuming, but do permit in-depth responses.

   b. Oral testing can be somewhat subjective in that there is a tendency for the instructor to help.

3. Written tests are probably a more acceptable way of evaluating the learning of knowledge.

   a. They are usually paper and pencil type tests.

   b. They usually consist of several test items. Test items can be of two basic types:

      1) Recognition Type--response is provided and learner must select which is the correct response.

      2) Supply Type--learner must supply the response to a given statement, problem, question.

RECOGNITION TYPE TEST ITEMS

1. Description and illustration of the three most frequently used recognition type test items are:

   a. True-false items
   b. Multiple-choice items
   c. Matching items

True-False Test Items

1. Advantages:

   a. There can be a large number of items.

   b. A large content area can be surveyed.

   c. Scoring is rapid and easy.

   d. Items are well adapted for testing situations where only two logical responses are possible.

2. Disadvantages:

   a. Unless item language is precise, there is chance for misinterpretation.

   b. Guessing factor is 50/50. One would not recommend a test entirely composed of true-false items, unless a right-wrong scoring system is used.

3. Suggestions for Item Construction:

   a. Avoid the use of specific determiners. It has been found that on most classroom tests, items which use the words "only" - "all" - "no" - "none" - "always" - "never" - etc., will generally be false. Items with words like "could" - "might" - "can" - "may" and "generally" will usually be true.

   b. Base true-false items upon statements that are absolutely true or false, without qualifications or exceptions.

   c. Avoid negatively stated items when possible and all double negatives.

   d. Avoid textbook statements.

   e. Avoid making the true statements consistently longer than the false items, or vice versa.

f. Avoid complex sentence structure with many dependent clauses.

Multiple-Choice Test Items

1. Advantages:

   a. They yield a more reliable measure.

   b. Effect of guessing is reduced.

   c. Plausible incorrect alternatives can require fine discriminations.

   d. They can provide valuable diagnostic information.

   e. They are easy to score.

2. Disadvantages:

   a. Good items are difficult to construct.

   b. Long statements increase reading time--can have fewer items in test.

   c. It is more difficult to cover large amounts of content.

3. Suggestions for Item Construction:

   a. It is recommended that the stem be a direct question.

   b. The stem should set up a clear, definite, explicit and singular problem.

   c. Include in the stem any words that might otherwise be repeated in each response.

d. Avoid making the correct response systematically different from other responses.

e. If possible, the alternatives should be presented in some logical or systematic order.

f. Make all responses plausible and attractive to the less knowledgeable student.

g. The response option (none of the above) should be used with caution, if at all.

h. Each test item should stand alone. A former response should have no bearing on items which follow it.

i. Randomly arrange the correct choice among the alternatives.

Matching Test Items

1. Advantages:

   a. Pictorial or symbolic material may be used.

   b. Compact and efficient way of making a rapid survey of similar knowledges (symptoms, definitions, terminology).

2. Disadvantages:

   a. Not well adapted for measurement of higher order abilities.

   b. Great care needed in development to avoid awkward arrangement of items.

3. Suggestions for Item Construction:

   a. Matching test items should be completed on a single page.

b. Use responses that are related but mutually exclusive.

c. Keep the number of items to be matched relatively small.

d. The number of possible responses should exceed the number of items to be matched by two or three.

e. The directions should clearly indicate the basis for matching.

f. Keep the statements in the response column short and present them in some logical order.

SUPPLY TYPE TEST ITEMS

1. Description and illustration of the two most commonly used types of supply type test items.

   a. Completion items
   b. Essay items

Completion Test Items

1. Advantages:

   a. Useful for checking on specific facts.

   b. "Natural" type of item--question-answer situation.

   c. Student must summarize in brief statement; easy to construct.

2. Disadvantages:

   a. Scoring is not completely objective.

   b. Frequently items become only a matter of naming or listing.

3. Suggestions for Item Construction:

a. Request short, definite, clear-cut and explicit answers. An indefinite question statement is likely to lead to scoring problems for instructors and response problems for students.

b. Avoid multi-mutilated statements. Preferably one response and no more than two in each test item.

c. If several correct answers are possible, equal credit should be given to each one.

d. In testing for comprehension of terms and knowledge of definitions, it is often better to provide the term and require a definition rather than provide a definition and require the term.

e. For completion items, it is generally recommended that blanks come near the end of the statement.

f. Minimize the use of textbook expressions. Causes students to memorize the exact wording of the text.

g. In general, direct questions are preferable to incomplete declarative sentences.

Essay Test Items

1. Advantages:

a. Easy to prepare and administer.

b. Permit in-depth responses.

2. Disadvantages:

   a. Limited sampling of content.

   b. Bluffing is possible.

   c. Reliability usually quite low.

   d. Very subjective and difficult to score.

   d. Very time consuming for student.

   e. Very time consuming to score.

3. Suggestions for Item Construction:

   a. Limit the problem which the question poses so that it will have the same meaning to most students.

   b. Use words which will convey clear meaning to the student.

   c. Prepare enough questions to sample the course content broadly, within a reasonable time limit.

   d. Use an essay question for the purposes it best serves, i.e., organization, handling complicated ideas.

   e. Prepare questions which require considerable thought, but which can be answered in relatively few words.

   f. Determine in advance how much weight will be accorded each of the various elements expected in a complete answer.

   g. Without knowledge of students' names, score each question for all students.

   h. Require all students to answer all questions on the test.

   i. Do not construct a test consisting of only one essay question.

TEST CONSTRUCTION, ADMINISTRATION AND SCORING

1. The design and construction of a written test involves several steps.

   a. Review instructional objectives--select those which involve cognitive learning.

   b. Examine course content relevant to objectives.

   c. List topics of subject matter related to each objective.

   d. Determine which type of test item is best for subject matter topics.

   e. Construct one or more test items for each instructional objective.

   f. Sample content widely for comprehensiveness.

   g. Assemble the test, first group by item types, then arrange so that related items are together.

   h. Write clear directions for each type of item in test.

   i. Construct the key.

   j. Reproduce test for administration.

   k. Administer test.

   l. Score test--each item or response counts as 1 point. Example: If the total test consists of 50 separate responses, then the maximum possible raw score is 50.

INTERPRETATION OF TEST RESULTS

1. Raw test scores are rather meaningless in themselves. They must be transposed into some form of unit that has meaning to the student.

2. Percentages are frequently used as the form for reporting test scores. Scores reported in percentage form are relatively easily understood by most persons.

3. The course administrator must examine the test results in terms of how well the students achieved the objectives of the lesson(s). He must decide the lowest passing score.

4. Scores at and above the minimum passing score receive a grade of PASS. Those below receive NO PASS.

5. Those receiving a grade of NO PASS should be informed of the objectives that they have not yet achieved at the minimum performance level.

UTILIZATION OF TEST RESULTS

1. Analysis of test item failures for purposes of:

   a. Evaluating student achievement.
   b. Evaluating the learning environment.
   c. Evaluating the instructor.

2. Use of the test results to improve instruction.

SUMMARY AND QUESTIONS

1. Contents of session--ask group members to respond to review questions:

   a. What is the relationship between instructional objectives and evaluation?

   b. What are some examples of learning in the knowledge category in the BES course?

   c. How can we measure knowledge?

d. What are the basic steps of test construction?

e. How can you utilize test scores to improve instruction?

2. Questions regarding the topic of this unit of instruction.

Time: 1-1/2 hrs

UNIT 17

PRACTICE TEACHING WORKSHOP

(3 enrollees)

Objectives: Provide enrollees with an opportunity to teach segments of the lesson plans.

Requirements: Evaluation forms

OBJECTIVES

1. Brief explanation of objectives of the workshop

PROCEDURES

1. Each enrollee with a practice teaching assignment will devote approximately 15 minutes to practice teaching.

2. Other enrollees will serve as "students" during the practice teaching session.

3. Each practice teaching session will be followed by a 15-minute critique in which instructor and enrollees evaluate the presentation and suggest means for improving it, as appropriate.

Time: 1-1/2 hrs.

UNIT 18

WORKSHOP: DEVELOPING WRITTEN TESTS

Objectives: Provide each enrollee with the opportunity to develop a variety of written test items.

OBJECTIVES

1. Brief explanation of objectives of unit of instruction.

2. Emphasis of the point that good test items are difficult to construct.

TEST ITEM DEVELOPMENT

1. Working in four groups (three to four enrollees in each group), enrollees should develop test items to satisfy some of the objectives of each of the following lessons:

   a. Group 1--Lessons 3, 4 and 5

   b. Group 2--Lessons 6 and 7

   c. Group 3--Lessons 9 and 10

   d. Group 4--Lesson 11

2. Enrollees are not expected to develop a complete test for each of the lessons; rather, they should develop a sampling of test items pertinent to the lessons.

3. The sampling of test items should include the following types:

   a. True - False
   b. Multiple choise
   c. Mat ching
   d. Completion
   e. Essay

4. At the completion of test item development, each group should report the test items developed.

5. All enrollees should discuss and evaluate the test items prepared by each group according to the principles presented in the earlier unit of instruction on Developing Written Tests.

Time: 1-1/2 hrs.

UNIT 19

APPLICATION OF INSTITUTE PRINCIPLES

Objectives: Provide enrollee with an opportunity to demonstrate assimilation of principles taught at Institute.

Requirements:

OBJECTIVES

1. Brief explanation of objectives of the unit of instruction.

   Note: Instructor should use this unit of instruction to assure that enrollees have assimilated the technical content of the Institute. He should call on various enrollees to demonstrate or apply the principles taught.

COURSE PLANNING CONSIDERATIONS

1. If the enrollee were requested to initiate and teach a course using the NHTSA curriculum materials, what planning considerations would be involved and how would he accomplish the planning task? Run through various planning considerations with the enrollees such as:

   a. Class size
   b. Course scheduling
   c. Facilities
   d. References
   e. Materials and equipment
   f. Etc.

) Use enrollee comments as a basis for discussion--do not consider them erroneous if they differ from suggestions given in curriculum materials

TEACHING-LEARNING PROCESS

1. Enrollee identification of phases in the teaching-learning process and major factors to consider in each phase.

2. Definition of what is teaching and what is learning.

LECTURE-DISCUSSION TECHNIQUE

1. Qualities of a good instructor.

2. Means for obtaining class participation:

   a. Asking oral questions

   b. Reassuring the shy student and encouraging him to participate

   c. Controlling the overly vocal student

INSTRUCTIONAL AIDS

1. Purpose and uses of instructional aids.

2. Hints for using:

   a. Chalkboards and chart pads
   b. Prepared charts
   c. Slides and film strips
   d. Overhead transparencies
   e. Films

DEVELOPING EQUIPMENT OPERATING SKILLS

1. Plan for skill development.

2. How to demonstrate skills.

DEVELOPING WRITTEN TESTS

1. Advantages, disadvantages and suggestions for item construction for:

   a. True - false items
   b. Multiple-choice items
   c. Matching test items
   d. Completion test items
   e. Essay test items

2. Suggestions for test development.

3. Uses of evaluation other than as a means of assessing student proficiency.

Time: 1 hr.

UNIT 20

INSTITUTE EVALUATION, REIMBURSEMENT FORMS COMPLETION AND AWARD OF COMPLETION CERTIFICATES

Objectives: Obtain enrollee comments and opinions on the value of the Institute and their suggestions for improving the Institute.

Describe procedures for completion of reimbursement forms.

Award completion certificates.

Requirements: Institute evaluation forms (one for each enrollee), reimbursement forms (one for each enrollee), completion certificates (one for each enrollee).

OBJECTIVES

1. Brief explanation of objectives of the unit.

(Distribute evaluation forms)

INSTITUTE EVALUATION

1. Enrollee completion of evaluation forms.
2. Enrollee comments on Institute as appropriate.

(Distribute reimbursement forms)

REIMBURSEMENT FORM

1. Review of procedures for forms completion.
2. Enrollee completion of forms.

GRADUATION

1. Distribution of Institute completion certificates.

APPENDIX
ENROLLEE HANDOUTS

APPENDIX

This appendix contains materials handed out to institute enrollees in Unit 6. It includes the following:

- Workshop Assignments--enrollees made selections from this page for their practice teaching workshops.
- Preparing and Presenting Workshop Assignments--this handout was prepared as a reminder of procedures to follow in preparing for and presenting a lesson segment.
- Workshop Checklist--this handout included a list of points to be considered by enrollees in evaluating the various practice teaching sessions.

WORKSHOP ASSIGNMENTS

Enrollee	Background Subjects
_____	1. Blood alcohol concentration--definition, standards and crash probabilities. Lesson 2, pp. 2-3 to 2-7
_____	2. Description, advantages and disadvantages of chemical test substances. Lesson 3, pp. 3-2 to 3-6
_____	3. History and types of breath equipment. Lesson 3, pp. 3-6 to 3-9
_____	4. Principles of breath testing. Lesson 3, pp. 3-9 to 3-12
_____	5. Metric system. Lesson 4, pp. 4-2 to 4-5
_____	6. Temperature scales. Lesson 4, pp. 4-5 to 4-7
_____	7. BAC measures. Lesson 4, pp. 4-7 to 4-8
_____	8. Types of alcohol. Lesson 5, pp. 5-2 to 5-4.
_____	9. Production of alcohol. Lesson 5, pp. 5-4 to 5-7
_____	10. Absorption, distribution and elimination of alcohol. Lesson 6, pp. 6-3 to 6-9
_____	11. Distribution ratios and Widmark's R. Lesson 6, pp. 6-9 to 6-10
_____	12. Effects of alcohol on the central nervous system. Lesson 7, pp. 7-2 to 7-5
_____	13. Suspect processing procedures. Lesson 8, any part of the standard operating procedure, pp. 8-2 to 8-10
_____	14. Suspect processing procedures. Lesson 8, any BES form or checklist, pp. 8-10 to 8-12
_____	15. History and development of U.S. chemical testing legislation. Lesson 9, pp. 9-2 to 9-6
_____	16. Constitutional issues of relevance to chemical testing. Lesson 9, pp. 9-6 to 9-13
_____	17. State statutes and regulations governing chemical testing. Lesson 9, any part of contents of pp. 9-13 to 9-17
_____	18. Background of the court system. Lesson 10, pp. 10-3 to 10-6
_____	19. Essential elements of the state's and defense's cases. Lesson 10, pp. 10-6 to 10-10
_____	20. Testimonial requirements. Lesson 10, pp. 10-12 to 10-17

WORKSHOP ASSIGNMENTS
EQUIPMENT SUBJECTS
Lesson 11, Parts I and II

Equipment Theory and Design

Topic	Alco-Analyzer Gas Chromatograph	Alco-Tector	Breathalyzer	Gas Chromatograph Intoximeter	Photo-Electric Intoximeter
Major features and operating principles	pp. 3-7	pp. 2-5	pp. 3-6	pp. 2-5	pp. 2-7
Nomenclature and function	7-8	5-6	6-8	6-7	7-9
Breath test procedures (suspect observations)	21-23	15-17	19-20	23-24	20-22
Technical facts	26-30	19-24	23-28	26-31	24-28
Factors affecting accuracy	33-34	29-31	34-36	34-35	32-34

Equipment Operation, Maintenance and Demonstration Testing

Equipment set-up	8-10	6-12	8-14	7-10	9-15
Sample taking and analysis and equipment shut-down	10-14	12-14	14-15	10-15	15-18
Alcohol standard	20-21	14-15	16-19	20-22	19-20
Malfunctions	31-33	25-28	30-33	32-33	29-31

PREPARING AND PRESENTING WORKSHOP ASSIGNMENTS

1. Each workshop assignment is not an entire lesson but rather a segment of the lesson requiring approximately 15 to 20 minutes of presentation.

2. Prior to his presentation, the enrollee should review the appropriate segment of the lesson plan and Study Guide. Material should be presented essentially as suggested in the lesson plans--modified, of course, by the enrollee's own style of presentation.

3. Since each practice teaching session is only a segment of a lesson, each enrollee should preface his presentation with a brief description of the objectives to be achieved and close with a summary.

4. In preparing for the presentation, the enrollee should insert marginal notes in the lesson where appropriate, underline points he wishes to emphasize and determine how he wishes to supplement his presentation with visual aids.

5. Regarding visual aids, use should be made of the chalkboard, any aids available at the Institute, or any aids the enrollee wishes to prepare for himself.

6. Each presentation will be followed by a 15-minute discussion during which the instructors and enrollees will suggest, as appropriate, ways and means for improving the presentation.

WORKSHOP CHECKLIST

Points to be Considered	Remarks

TEACHER PREPARATION

1. Did he appear to have everything planned--to know what he was doing?
2. Were equipment and materials in readiness?

STUDENT PREPARATION

1. Was the group put at ease? Was this done naturally or was it overdone?
2. Did he give an introduction to his topic? Was it clear? Did everyone know the objectives of the unit of instruction?

PRESENTATION

1. Was the presentation clear, understandable, complete?
2. Did the instructor jump about or back track?
3. Could you follow the steps.
4. Were all key points brought out sharply?
5. Did the instructor know his subject?
6. Did he use the available visual aids effectively?

APPLICATION

1. Did he involve the class in his presentation by having the learners respond to questions or explain key points?
2. For skill practice, did he have the learner do the job?
3. Did he compliment and correct the learner as appropriate?

EVALUATION

1. Did the instructor achieve his objective?
2. Did the instructor help the learner achieve his objective?

APPENDIX D

NHTSA CURRICULUM MATERIAL NOTICE

This appendix contains the NHTSA notice which describes the curriculum material. It contains the background of material development, sale and distribution information, a brief summary of each document, a reference to the instructor training institutes, the source of obtaining documents and price data.

U.S. DEPARTMENT OF TRANSPORTATION

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

NOTICE TSP - 900	
DATE OF ISSUANCE December 29, 1971	OPI: 42-22

Notice Expires _____

SUBJECT: Curriculum Material Set for Training Course: Breath Examiner Specialist

1. PURPOSE. To transmit new published NHTSA material and to promote further widespread dissemination and use in State and community comprehensive programs.

2. BACKGROUND. This is the second of a series of curriculum materials developed for the purpose of expanding and improving training conducted with support from Section 402 and other sources. The first was the Emergency Medical Technician--Ambulance: a third, Driver License Examiner, is presently being printed.

The enhanced status of breath test equipment and its increasing use led to the development of this curriculum set for training in the use of an assortment of relatively sophisticated apparatus. Contract No. FH-11-7540 provided for development and field testing of; a course guide, instructor's lesson plans, and a student study guide.

3. SALE and DISTRIBUTION. Under separate cover each NHTSA region is supplied with a quantity sufficient to acquaint each State with the publications.

Free-of-charge sets will be supplied by NHTSA in response to single set or single item requests until the limited supply is exhausted. Quantity stocks are maintained for sale by the Superintendent of Documents.

4. CURRICULUM SET.

a. Course Guide. Provides assistance in the organization, operation, and evaluation of a local breath examiner specialist training course. Specifies: task performance standards and trainee prerequisites; course outline and schedule; equipment and supplies; and instructor qualifications. This item is recommended to administrators, managers, supporting personnel, and employees in preference to the bulkier and more expensive instructor's lesson plans manual. It is appropriate for distribution to group meetings, advisory committees, and others.

b. Instructor's Lesson Plans. Provides detailed step-by-step guidance to permit a qualified local technician to perform as a lay instructor. Seventeen outlined lesson plans feature recommended time sequences. Tips for effective teaching and supplemental references for instructor study are included.

c. Student Study Guide. Contains related technical information keyed to individual lessons. Charts, diagrams, tables, etc., serve also as valuable guides following course completion. Suitable for local duplication in quantities or may be purchased.

DISTRIBUTION: TSP "C"; Governor's Representatives thru Regional Office

5. INSTRUCTOR TRAINING. Concurrent with dissemination of curriculum sets is an NHTSA project to conduct a one-week training institute for a selected number of instructors of breath examiner specialists. The objective is to familiarize local instructors with the new materials and to provide or increase training availability nationally.

6. REFERENCES. Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402:

Basic Training Program for Breath Examiner Specialist

Course Guide..... 23 pages.....Price $ .60
Stock No. 5003-0046

Instructor's Lesson Plans.....366 pages.....Price $3.00
Stock No. 5003-0044

Student Study Guide..... 74 pages.....Price $1.00
Stock No. 5003-0045

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